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ABSTRACT

The contribution of competency-based training (CBT) to Australia's vocational education and training (VET) sector was examined through three data collection activities: review of Australian and international literature on VET and CBT; telephone survey of a sample of training managers of 195 companies across Australia; and 8 intensive case studies of competency-based VET programs throughout Australia. According to the literature review, the contribution of CBT to outcomes in VET is strongly related to the following: how competency is conceived; flexibility in the development and use of national competency standards; and processes and structures of training provision. The national telephone survey indicated that CBT's success relies on the following three factors: (1) specific skills, on-the-job learning and assessment, and recognized training with formal acknowledgment of skills in a qualifications structure; (2) enterprise development in adapting to and managing changing workplace realities; and (3) workplace and industry accountability. The case studies showed that CBT's outcomes depend on how competency is conceived and how the training process is defined. (The report contains 115 references. Appendixes, constituting approximately 40% of this document, contain the following: national survey information, descriptions of case study sites, case studies, telephone survey questionnaire, case study observation schedule, and case study interview questionnaire.) (MN)

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EVALUATING THE CONTRIBUTION OF COMPETENCY-BASED TRAINING

COMPETENCY-BASED
training

Dianne Mulcahy
Pauline James

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Evaluating the contribution of competency-based training

DIANNE MULCAHY
PAULINE JAMES

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1 Overview

1.1 The context

Over the past decade, governments and industrial parties have committed to a range of reforms to vocational education and training (VET) in Australia. Competency-based training (CBT) is a key component of these reforms. Introduced in 1992 (Foster 1998), CBT was principally intended to provide an improved base of skills at work. This improvement was to take effect through various processes, including increased relevance of training to industry, increased involvement of industry in training, and increased uniformity in training outcomes. National competency standards were progressively introduced towards creating a more cohesive vocational education and training system, and rendering education and training more responsive to industry requirements.

The quality and effectiveness of training in Australia depends, among other things, upon establishing the contribution that CBT has made to VET, specifically, the outcomes of programs based on industry standards. Primarily intended to achieve more flexible and adaptable skills at work, little is known about the contribution of CBT to this achievement. The requirements of various stakeholders, such as industry, employer and employee bodies, and individual employers and employees, are also under-researched with regard to competency standards and the contribution of CBT at large.

With this in mind, in 1997 the National Research and Evaluation Committee, through the National Centre for Vocational Education Research (NCVER), funded a project whose purpose was to undertake a comprehensive and multi-dimensional evaluation of CBT. More specifically, 'Evaluating the contribution of competency-based training' grew out of a proposal for a Major Project (Project 4) in the key priority area, 'Outcomes of the vocational education and training sector', identified for the national research and evaluation strategy for Australian VET. Given that the VET sector now covers a vast range of education and training, including technical and further education (TAFE), private training—enterprise training, on-the-job training in businesses and in industry—and training offered by sections of the adult and community education sector and the schools sector, the project needed to be selective.

1.2 The project

Based in the Department of Vocational Education and Training (DVET) at the University of Melbourne, and led by Dr Dianne Mulcahy and Dr Pauline James of the DVET, the purpose of the project was to investigate the contribution that CBT has made to outcomes in VET, most particularly the extent to which CBT is meeting the requirements of various stakeholders and contributing to the quality and flexibility of vocational learning and working life.

The project was supported by a national team of researchers, namely:

Llandis Barratt-Pugh: School of Management, Edith Cowan University, Western Australia;

Helen Bound: Centre for Research and Learning in Regional Australia, University of Tasmania, Tasmania;

Ken Bridge and Elaine Butler: Centre for Labour Research, University of Adelaide, South Australia;

Michelle Dickson: Vocational Education and Assessment Centre, TAFE New South Wales;

Brunella Novello: School of Cognition, Language and Special Education, Faculty of Education, Griffith University, Queensland;

Philip Wall: Vocational Education and Training Division, Batchelor College, Northern Territory.

Framework for evaluation

Not unlike the British model of competency-based education and training, the Australian model gives priority to outcomes. Four key defining features of CBT are:

- specified training and assessment outcomes
- industry involvement in defining these outcomes
- competency standards as the expression of these outcomes
- training programs based on industry competency standards

These features provide a basis on which to appraise the contribution that CBT has made to VET and its general worth and effectiveness. Needless to say, what we use CBT *for* decides, in part, the question of its contribution and this can only be determined empirically.

The issues involved in any evaluation of CBT are extremely complex and are unlikely to be understood from any one theoretical perspective or interpretative frame. Thus the study sought to capture a broad range of contributions that CBT has made to VET by using multiple and different evaluative criteria. In line with other evaluation researchers (for example, Harris 1996b; Everitt 1996), we took it that the main purpose of evaluation is to improve projects rather than supply information for accountability. To this end, the outcomes achieved by CBT, and the consequences of this achievement for various parties, needed to be analysed from a number of different vantage points, including those of employers, providers, instructors and trainees, and a number of different perspectives.

Three broad perspectives for the possible improvement of VET in relation to CBT were taken:

- a *technical* perspective, where we sought to establish the effectiveness of CBT and its key defining features (competencies, competency standards)
- a *critical* perspective, where we sought to establish the distributional effects of CBT, for example, whether CBT benefits some client groups (industry, enterprises, individuals) and not others

- a *socio-cultural* perspective, where shared values and 'communities of practice' (Lave 1991) could be taken into account

These perspectives formed the basis for the broad questions which the research aimed to address:

1. What evidence is there that CBT is achieving its intended outcomes, and what are these outcomes? More specifically, what evidence is there that CBT, as a model of VET, is effective in meeting industry goals for a skilled workforce and providing other benefits in VET? *(technical perspective)*.
2. In what situations, and for which stakeholders, have these benefits been shown to be greatest? Does CBT lend itself to the purposes of some 'client' groups (industry, enterprises, individuals) and not others? *(critical perspective)*.
3. What social and cultural practices of education and training are being reproduced through the change to CBT? More specifically, what contribution has CBT made to cultures of learning and training in different industries and enterprises, including membership in communities of practice, which some commentators (Billett 1996a; Brown 1997) suggest is central to the construction of vocational knowledge and the development of vocational expertise? *(socio-cultural perspective)*.

Project objectives

Using these broad perspectives and questions, and guided by the project brief, the research sought specifically to:

- determine whether competencies are being used in individual enterprises, how they are being used and to what effect
- compare CBT with other models of VET
- evaluate the contribution that CBT has made to the achievement of skills in VET and the character of these skills
- determine the success of competency standards in reflecting industry requirements across a range of industries and what constitutes this success
- evaluate the degree to which CBT is meeting the requirements of:
    - industry
    - individual enterprises
    - employers / supervisors
    - instructors and trainees
    - different industrial settings
- investigate how selected national competency-based vocational education and training programs are being developed and implemented by individual enterprises, employers / supervisors, instructors and trainees

1.3 The methodology

There has been a change in the policy, as well as the practice, of providing VET in Australia. With the introduction of the National Training Framework (NTF) and associated industry-led initiatives, Australia appears to be moving away from an education-based VET system, towards the creation of an industry or enterprise-based system. Given this movement and, more particularly, the emphasis on industry in the project brief, the empirical data for the evaluation were collected in industry and enterprises.

Generally, throughout this report, industry refers to the type of activity of the enterprise, rather than peak body. The standard Australian and New Zealand Standard Industry Classifications (ANZSIC) were adapted slightly for use in the research. Thus, 'services' was used as a generic term—specific industry sectors in services (for example, Health and Community Services, Property and Business) were grouped together.

Since the evaluation involved technical, critical and socio-cultural perspectives, data collected were both qualitative and quantitative. A range of approaches and sources of data were used to enable triangulation and ethnographic methods that address critical and socio-cultural perspectives. Interviews rather than questionnaires were employed to provide the opportunity for joint clarification and interpretation of data. Interview questions explored issues highlighted by each perspective. More specifically, the methodologies involved the following:

Academic literature search

A focus on identification of models of VET in the international and Australian literature and theoretical and empirical studies of the contribution of CBT to VET. This information was used, in part, to structure the content of the investigative telephone interviews and case study protocols, which were developed to collect empirical data on the contribution of CBT. Once collected, it also formed the basis of interpretation of this empirical data.

National survey: Investigative telephone interviews

A cross-sectional, investigative telephone survey with training managers (or equivalent personnel), to gather relevant attitudinal, sectoral and compositional data. The survey sample consisted of 195 companies and firms from within seven Australian States and Territories. Companies of various size (by number of employees: small 1–19 employees; medium 20–99 employees; large over 99 employees) were contacted from different industry sectors—Manufacturing, Services, Construction, Agriculture, Forestry and Fishing. The survey sample was further defined by geographical location—companies were drawn from metropolitan and regional areas of Australia. A balanced sampling of companies by size of establishment, location, State / Territory and industry was attempted and, for the most part, achieved. Approximately 30 interviews were conducted in each of six States and 16 interviews in the Northern Territory.

Selection of companies was made in consultation with ITABs and some other agencies (for example, the former Australian Chamber of Manufactures Training Centre), using the criteria above. Almost all companies sampled had been using CBT for at least one year (i.e. they were 'in-scope'). Information was gathered using an interview protocol (see Appendix 4 for a copy of the Telephone Survey Questionnaire) consisting of open-ended questions relating to the purposes of CBT and its effectiveness in individual enterprises (i.e. the technical component of the evaluation).

In-company case studies

Eight intensive case studies of national competency-based VET programs throughout Australia. The selection of companies for these case studies was made according to the same criteria used in the survey sample above. Thus, case studies were undertaken in different industry sectors—Manufacturing (2), Services (2), Construction (2) and Agriculture, Forestry and Fishing (2). The case study companies were of various size (small, medium, large) and located in metropolitan and regional areas of Australia's States and Territories. They were accessed largely through the contact that researchers had made previously through the telephone interviews. The case studies involved participant observation of training programs (see Appendix 5 for a copy of the case study observation schedule) and in-depth, semi-structured interviews (49) with a range of individuals with an investment in training: company manager, training manager, supervisor, trainer(s) and trainees (see Appendix 6 for a copy of a sample case study interview questionnaire). Informational data from these observations and interviews were collected in order to provide a detailed understanding of CBT from a critical and socio-cultural perspective.

1.4 Findings: The contribution of competency-based training

While differing in their emphases, the literature review, national survey and case studies were all designed to provide an understanding of a range of practices in relation to Australia's approach to competency-based vocational education and training, and appraise the effectiveness and value of this approach. The findings reported here are presented with regard to critical aspects of the development and use of CBT as revealed in the literature review, national survey and case studies respectively.

The literature review

The literature review showed that the contribution of competency approaches to outcomes in VET is strongly related to:

- how competency is conceived. Conceptualisations of competency in many European and other countries tend to challenge CBT in relation to its overly narrow understanding of competency and overly specific content. The concept and basic ideas behind competency-based vocational education and training in these countries centre on learning, lifelong learning and learning at work
- flexibility in the development and use of national competency standards. Overseas experience shows that these standards are most widely used when written as broad statements of intent, consistent with the broad foundation skills that assist with flexibility and mobility within labour markets. Australian studies support the idea of interpretative flexibility when using standards. Discretion is necessarily exercised when applying national standards in particular circumstances and situations
- processes of training provision. Teaching and learning processes have a significant role in education and training provision. Vocational education and training research in many European and other countries, including Australia, emphasises the importance of sound pedagogy in VET and highlights the increasing need for programs of professional development for VET educators
- structures of training provision. Meaningful partnerships between employers, employees and educators are emphasised in the research literature. Local partnerships are considered one of the best means for reducing the tension

between national governments pursuing national goals and local actors pursuing local goals. For example, the regional training consortium—a common model of European partnership—can bring together training providers, employers, people active in development, and people looking for jobs, with a view to using training as a means of local and regional development

More specifically, the educational research literature showed that the contribution of competency-based approaches to outcomes in VET relies upon:

- integrating competencies with work practice and processes of work-based learning and providing conditions for the development of learning environments where both formal and informal learning can be taken into account
- achieving the broad foundation skills which form the basis of work in particular industries and which are important in assisting flexibility and mobility within labour markets. These skills are drawn from broad clusters of occupations; they are not skills needed for particular jobs
- achieving knowledgeable skills. The educational research literature emphasises the importance of knowledge in achieving adaptable skills. As defined in this literature, adaptability involves the ability to use existing knowledge in new ways and unfamiliar situations that lead to the generation of significant new knowledge in the process. This is the essence of skills and knowledge transfer
- transfer that is specific *and* transfer that is non-specific. The educational research literature highlights the importance of opportunities to engage in both routine problem-solving and non-routine problem-solving when undertaking VET. High-level competence or, more commonly, developmental expertise, requires that provision for both types of problem-solving be made

National survey

The telephone interviews showed that the success of CBT, where success is defined as achieving 'real' or tangible results, relies on three main factors. These factors may be defined as the capacities of CBT to promote:

- specific skills, learning and assessing on-the-job, and recognised training—with formal acknowledgement of skills in a qualifications structure
- enterprise development in adapting to and managing the changing realities of the workplace
- workplace and industry accountability

The telephone interviews also showed that CBT contributes most to VET when the following conditions are met:

- training is delivered on-site. Competency-based training is seen to be delivered most effectively on-site by those teachers and trainers who can meet needs identified by each enterprise. Given that CBT is commonly conceived as 'specific skills for specific jobs', enterprise-based teachers are often best placed to facilitate this skill acquisition
- enterprise and other standards are available. Development and national endorsement of competency standards are strongly supported by enterprises, where they can be used for particular practical purposes such as marketing and securing quality of service and product. However, enterprise and other standards (and informal training) are commonly used for the development of enterprise-specific skills

- basic levels of skill are required. Competency training is considered most applicable and effective in relation to operator, trade and apprenticeship training for full-time, permanent staff. Training for more senior workers, casual workers, and those with disadvantages of language and / or prior educational attainment, appears to require further attention
- resources and information are available. CBT provides little benefit to small and / or remote businesses if costs cannot be kept down and information is difficult to access. In addition, it is important that appropriate personnel are available to manage the many processes associated with CBT, for example, delivery of training, assessment, reporting and accountability
- appropriate procedures and processes are in place. If CBT is to be improved, then its administrative procedures and assessment processes require attention. In addition, associated industrial relations issues and a better integration of on- and off-the-job learning need to be urgently addressed
- procedural knowledge is required. While procedural knowledge and capacities for routine problem-solving are apparently developed very effectively by CBT, conceptual, tacit and experiential knowledge are given far less attention
- quality of teaching practice is assured. Competency training appears to rely for its success upon the expertise of its practitioners who engage and motivate students by supplementing the curriculum as laid down and employ a variety of pedagogical approaches that include reflection upon current practices, dialogue, problem-solving through the use of workplace scenarios, and coaching

Further findings are:

- competency training is seen to have had a major positive influence upon workers, particularly through an increase in skills recognition and the provision of workplace relevant training. It is said to have empowered workers to request training for themselves and, in many places, to have improved workplace relationships
- while standardisation of the curriculum and assessment is, in general, viewed very positively, a more holistic approach to training that recognises the situated nature of skills, and values appropriate to the specific organisational context, is advocated by a number of training managers across all industry sectors
- cultures of training already in place may, in some contexts, have influenced the contribution and acceptance of CBT either positively or negatively. In certain areas of Manufacturing and Construction, for example, some tradespeople accustomed and committed to 'time-served' apprenticeship training are said to have resisted CBT initially. Or, in Health and Community Services, where holistic training has been the norm, CBT is reported to have been either modified in constructive ways, or seen as a retrograde step.

Case studies

Broadly, the case studies showed that CBT is not a singular and universal training approach. Two main factors contribute to this outcome:

- how competency is conceived. Two broad understandings of competency are evident in the case material: (i) a 'content' understanding which emphasises *tasks* required by the job; and (ii) a 'process' understanding which emphasises the *contexts* in which the job is done. Like the findings from the national survey, competency is commonly conceived as content ('specific skills for specific jobs'). Consequently, competency training is oriented towards the creation of specific outcomes

- how the training process is defined. Four broad and interrelated models of VET are apparent in the case material: an instructional model, a training model, a developmental model and an educational model. The choice of model(s) in each enterprise is informed, in part, by the business strategies being pursued and the broader enterprise culture

More particularly, the case studies showed that CBT contributes most to VET when the following conditions are met:

- national industry standards are combined with enterprise or company standards. National industry standards are commonly supplemented by in-house or company standards. Enterprise standards lend themselves to and are commonly used for on-the-job training. National standards, while also used for training, provide opportunities for recognition of skills which can lead to a recognised qualification. A major benefit of national standards is that enterprise standards can be aligned to them
- competency standards are freely interpreted and used. Where trainers attempt to deliver and assess directly to competency standards—use them as given guidelines and plans—CBT seems somewhat narrow in approach. Standards, of necessity, cannot take all contingencies into account. They commonly require the use of discretion and judgement on the part of trainers, assessors and trainees
- specific technical skills are required. CBT is considered effective in providing operational, technical and trade skills, as well as skills which are specific to the individual enterprise. The latter can include highly specialised skills such as those used in craft production (for example, custom woodturning). However, it is somewhat less effective in providing broad-based attitudinal / behavioural skills, as well as skills which are not enterprise specific (for example, skills common to the professions). Like the findings of the national survey, training for more senior workers and generic skills appears to require further consideration. There is evidence in the case studies to suggest that enterprise-based competency training runs the risk of developing competence in site-specific skill and knowledge only. However, this risk is subject to the pedagogical approaches adopted by the provider
- routine problem-solving is required. The results of the case studies support the findings of the national survey and other research on the positive contribution of CBT to routine problem-solving and its relatively limited contribution to task and problem situations of a non-routine or contingent kind. Thus, evidence of *problem-setting* by learners was not plentiful
- adaptive expertise is required. The case studies revealed that CBT has contributed positively to the creation of a particular type of competence or type of expertise—adaptive expertise—which is required in situations where outcomes need to be guaranteed (for example, quality and safety). However, CBT contributes less to types of expertise which rely on proactive behaviour on the part of individuals or groups. Developmental expertise is promoted in training programs where people set goals and deal with changing situations through exhibiting a 'situation-oriented ability to act'. Such programs were provided in one or two case study enterprises only
- problem-based pedagogies are used. The pedagogic approach used in competency training can promote types of problem-solving that go beyond the routine. There is evidence in the case studies to suggest that where trainees engage in anticipatory learning—learning that emphasises rehearsing outcomes and asking questions like 'What if ...?'—more comprehensive types

of problem-solving, as well as processes of problem-setting, are achieved. In other words, VET practitioners add to the possibilities in CBT

- partnerships between employers, trainers and employees are in place. The case studies revealed the significance, most particularly for training in cross cultural community settings and small businesses, of close, mutual relationships between enterprises and providers. Close relationships are also important between on-the-job trainers and off-the-job trainers when delivering to regional and remote areas

Finally, the case studies showed that CBT has made a positive contribution to most, but not all, stakeholders, namely:

- employers. The main benefits of CBT to employers are that (i) learning can be achieved on-the-job; and (ii) competencies can be developed which are suited to immediate needs (as well as leading to a recognised qualification for employees). CBT is also of benefit to employers because they can set standards (for example, in-house competencies) *and* use standards already set (for example, national competencies)
- supervisors. The benefits of CBT to supervisors are that it provides greater transparency in training through presenting clear information on outcomes, thus lessening the need for supervision. The synergy between training outcomes and other desired outcomes (for example, quality and safety) also has distinct advantages in the context of supervision
- teachers and trainers. CBT was found to contribute to different teachers in different ways. Inexperienced teachers appreciate the structures provided by CBT. While experienced teachers can use these structures as a platform for program development and delivery, they rely on other resources (personal and professional) to deliver CBT. CBT as a model of VET is seen to treat curriculum and learning processes in an ambivalent way (i.e. provide 'parts' for delivering training which require 'wholes', for example, teacher expertise, to make the delivery work). Consequently, this model is problematic for these teachers. In line with other research, CBT is also found to impact significantly on teachers' roles
- students and trainees. Here, CBT appears an unqualified success. The case studies showed that the main benefits for students of CBT are gaining recognition of their skills and formalising this recognition through national qualifications. Other benefits include the opportunity to apply learning directly to the workplace and achieve 'real' results

1.5 Implications for VET

We conclude this overview with a list of implications of the findings of the literature review, the national survey and the case studies, most particularly for policy and practice in VET:

- a shift in our views of competence seems to be required. Competence is an umbrella term through which technical, cognitive, socio-cultural and critical aspects of development can be taken into account. Choices in relation to which aspect(s) are most significant, commonly take the norms and values of communities of practice (for example, workplace, trade, profession) into account
- recognition needs to be given to the idea that different models of VET exist, ranging from the currently endorsed standards-based model (CBT) to process-based models. These models need not be seen as alternatives. The

benefits sought from them are, among other things, relative to the strategies pursued by stakeholders and the contexts in which these strategies are pursued

- the standards-based model however, is limited in the emphasis it gives to the learning process. Thus, recognition needs to be given to the idea that CBT is not universally applicable
- a shift in our view of standards seems to be required. Standards can refer to given or negotiated guidelines and plans. Recognition needs to be given to the idea that the relationship between competency standards and the training process is not straightforward. Training outcomes commonly exceed 'competencies'
- more recognition needs to be given to the role that practitioners play in negotiating the relationship between industry competency standards and the training process. Competency training relies in part for its success upon the expertise of its practitioners who situate the standards within particular contexts and integrate them with work practice and processes of work-based learning
- more flexible approaches to structuring industry competency standards appear to be required, for example, standards as broad statements of intent for training, consistent with the broader, 'professionalised' role of workers in contemporary workplaces. Customisation of curriculum may well not resolve this issue. More autonomy with regard to interpreting and using competency standards appears to be required
- more consideration needs to be given to the limitations of competencies with respect to transfer. Greater acknowledgement needs to be given to the role of VET practitioners in facilitating transfer of skill through various interactional processes (for example, enabling trainees to identify problem situations and abstract principles from practice). This highlights the importance of programs of professional development for VET practitioners
- more consideration could be given to the significance of close, mutual relationships between enterprises and providers in securing education and training provision that meets both educational and enterprise goals. This highlights the need for recognition of the capacity of practitioners for exercising professional judgement in interpreting and using competency standards

2 The research and evaluation literature on CBT

In the sections which follow, we review research on the development and implementation of competency-based approaches to vocational education and training. Focussing largely on the educational literature, we give attention to CBT in Western Europe (including Britain), the United States and Australia. The focus of the review is on identification of 'models' of vocational education and training and their educational merit and significance. Various studies of a theoretical and empirical kind are examined towards establishing the contribution that CBT has made to outcomes in VET in Australia. This examination is made through analysis of themes and issues of concern that have arisen in relation to CBT in Australia and from the perspective of global trends.

2.1 International studies

Competency-based vocational education in the European Union (EU)

Emerging approaches to competency training within a European context (Attwell 1997; Ellstrom 1997; O'Donnell and Garavan 1997; Heidegger 1997; Brown 1997; Tomassini 1997; Kuhn 1997) are centred around work as an activity that requires individual workers to influence or shape their occupational identities, working conditions and work content, including the development and use of technology (Brown 1997; Heidegger 1997).

The model of competency training that tends to be preferred is a learning-oriented and work-focussed one. The trend in training is towards more work process related activities rather than classroom learning. Work process knowledge (Attwell 1997) is claimed to form the basis of the training process. Work process knowledge emphasises the importance of critical points in the work process and depends for its development on complex learning environments.

In most European countries, socio-economic policy debates assume the importance of a flexible labour market. 'Labour market flexibility is seen as a means of increasing economic competitiveness and improving welfare' (Groot 1997, p.1). Work is claimed to require 'entrepreneurship': workers who can deal with changing situations, or demonstrate 'a situation-oriented ability to act' (Buck 1997, p.97). Many of these countries have a tradition of trying to balance economic and social goals and achieve policy coherence across a wide range of fronts—the labour market, social welfare, and education and training, most particularly VET. Thus, the models of competency training that tend to be preferred emphasise outcomes that are both broad and diverse.

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Competence is defined as competence-in-use, that is, as 'neither primarily an attribute of the individual worker (or the collective of workers), nor primarily an attribute of the job. Rather, the focus is on the interaction between the individual and the job, and on the competence that is actually used by the worker in performing the job' (Ellstrom 1997, p.268). Competence is conceived relationally; defined in relation to other valued purposes and goals (for example, lifelong learning, organisational learning). Thus conceived, it involves many aspects, for example, professional / vocational competence, social competence, organisational (or strategic) competence, personal competence, community competence (Kjellberg et al. 1998, p.214).

The concept of competence-in-use goes hand in hand with the concept of innovation, where innovation is understood to be socially organised. An orientation towards the social organisation of innovation gives attention to 'learning processes and pro-active behaviour by individual(s) or collective actors' (Ellstrom 1997, p.266). In other words, it takes into account not just the needs of companies and employers, but also needs relating to the development of individual workers and of regional economies as well. 'One of the main aims and purposes for VET is the development of social innovation and entrepreneurial skills' (Attwell 1997, p.263).

The emphasis is on promoting the involvement of workers in company decision making through the competent use of knowledge and skill: 'Workers should be given the skills and autonomy to shape and control technology in the production process and commerce and services, and to design and control work organizations' (ibid.). Innovative enterprises are enterprises where learning and working increasingly become an integrated process. These enterprises tend to adopt a 'process-driven strategy for education and training where most new tasks have a new knowledge dimension and where learning becomes an essential part of successfully executing a task' (Bengtsson 1993, p.141).

The skill structure that tends to emerge in such enterprises has its priority around problem-solving and entrepreneurial skills. This structure implies the use of developmental competence or developmental expertise—'continuous experimentation and innovative activity on the part of employees during ongoing activities in everyday work' (Ellstrom 1997, p.270). 'In practice, this means a continuous movement between routine and non-routine work as well as between well-defined, repeated tasks and poorly understood, rarely occurring problem situations' (ibid.). Evidence of this expertise can be drawn from workers' ability to question existing practices and produce novel solutions to problems.

In the European literature, local training partnerships would appear to be the preferred arrangement for developing competence. According to Walther (1997, p.73), 'local partnerships constitute one of the best means for reducing (the) tension between national governments pursuing national economic goals and local actors who know their local economy's skill and qualification requirements'. Thus, the regional training consortium—a common model of European partnership—can bring together training providers, employers, people active in development, and people looking for jobs, with a view to using training as a means of local and regional development.

In Germany, guidelines are available for setting up 'learning regions' with the aim of establishing, at one and the same time, an approach to improving skills and qualifications, and a commitment to identifying new jobs. Grounded in a change-oriented view of competence, emergent models of VET in many

European countries are essentially dynamic and developmental. They run counter to approaches adopted in some European countries however, most particularly the United Kingdom.

Competency-based vocational education in the United Kingdom

It is commonly acknowledged that the Australian system of competency-based VET is modelled, in part, on the British system. Indeed, with the introduction of training packages and the new emphasis on national vocational qualifications, Australia is moving closer to the British competency-based system. The Australian system now mirrors the British system in removing curriculum from the accreditation process. 'In their design, the British National Vocational Qualifications (NVQs) are similar to the credentials in training packages. They both emphasise assessment against competency standards on the basis that the new credentials more accurately reflect workplace competence' (Comyn 1998, p.60).

Major changes in the British qualification system were introduced in 1986, giving rise to a new system of qualifications based on 'competencies'. The aim was to give the United Kingdom a high quality, national, employment-based system, improve the skill level of employees in British firms and increase the number of qualifications held within the workforce. National Vocational Qualifications were designed to be delivered and assessed in the workplace. In what approaches a dual system, General NVQs (GNVQs) have also been introduced to cater for those who want to study in broad occupational areas and develop broad competences. Those who gain GNVQs may progress to higher education, or enter employment, typically at 17–18+, and develop specific competences for their specialisms which are recognised in higher-level NVQs. A broad vocational qualification, GNVQs are college-based.

The NVQs have attracted considerable critical attention, including a series of government sponsored reports (for example, Beaumont 1996; Dearing 1996). Various reviews of NVQs have been conducted and a mounting body of evidence exists to suggest that the NVQ system is beset with problems. Surveys have revealed the low take up and completion rates among candidates for NVQs (Green & Steedman 1997). Hyland's survey found employers to be largely indifferent to or ignorant about the nature and purpose of NVQs (1996, p.35) and reluctant to participate in work-based assessment. The Confederation of British Industry (CBI), an employer organisation, in a survey of member firms, found that 'some companies report a tension between job or company-specific standards and generic standards. Some find the standards and NVQs too narrow but others find them too broad' (CBI 1994, p.21). Currently, requirements for NVQs are being reworked and made less rigid.

A further problem involves the achievement of higher-level skills qualifications in the workforce. Progress on achieving these skills qualifications has been poor. For some commentators, NVQs demonstrate policy failure in VET. Thus, in a study of the development of NVQs, Williams (1997) makes the comment that 'although competence-based NVQs have become the cornerstone of training policy in the late 1980s and early 1900s, and have been relentlessly promoted by the Government, the policy appears not only to have made very little headway in improving the skills base of the workforce, in engendering greater employer involvement and in generating a rationalisation of qualifications, but has arguably had an adverse impact in these three areas' (1997, p.6).

Scottish Vocational Qualifications (SVQs), the Scottish equivalent of NVQs, are also argued to have 'inherent problems' (Canning 1997, p.1). Empirical research indicates a similar pattern of low take up and completion rates, thus a 'decline in the vocational work-based educational route' (ibid.). Canning describes this decline in the following terms:

> *The two main occupational areas for SVQ awards are the 'Provision of Business Services' (25%) and 'Providing Goods and Services' (27%). Only 4 per cent of total SVQ awards are within manufacturing, the vast majority at levels 1 and 2. A typical SVQ candidate in Scotland is likely to be a level-two hairdresser, care assistant or clerical worker. Significant numbers will be on government training schemes and most likely will be funded directly or indirectly through the public purse. As a mechanism for increasing the country's competitiveness or dealing with skill shortages, SVQs have been a conspicuous failure. Their main impact has been at the lower-skill level in service sectors that previously had no history of work-based training.*
>
> (1997, p.2)

While the problems attached to competence-based systems of VET in Scotland and the United Kingdom are not unique, they indicate an over-emphasis in policy on qualifications structures and an under-emphasis on work practice and processes of work-based learning.

Competency-based vocational education in the United States

An important component of educational reform strategies in the United States today is linking education more closely to the emerging needs of workplaces. Skill standards are promoted as providing this link. One stream of education and training reform activity is the development of a national system of occupational skill standards. American education and training policy is somewhat different from Australia and most European countries in that it is decentralised. As McFarland reports (1997, p.7), localities and states have considerable autonomy in education, so the country exhibits a national 'mosaic' of practice, rather than a centrally designed 'system'.

National skill standards specify requirements for broad clusters of occupations, not skills needed for particular jobs. They are promoted as voluntary and are not linked to educational and training qualifications. They are developed by means of voluntary partnerships with industry taking the leading role. The voluntary partnerships model brings in all the key stakeholders in the use of skill standards, that is, employers, unions, training providers and workers, as well as government, education and training, and community representatives.

The priority of the emerging skill standards system in the United States tends to be developing the workforce, rather than creating nationally consistent qualifications and skills. While skill standards in the United States directly affect the nature and context of education and training, they are seen primarily as a labour market reform issue impacting on workforce development initiatives. The complete sets of skill standards, when endorsed, become a database that can be tapped into by industry and community bodies that have a role in the labour market (Varanasi 1998, p.8).

The national system of industry-based standards in the United States is very much under developed. The groundwork for a national system was laid in 1992, when 22 skill standards pilot projects commenced in various industries in the United States. Reporting on the progress of these pilots, Bailey and Merritt (1995, p.iii) suggest that skill standards systems need to be developed that are more consistent with the broader, 'professionalised' role of workers in today's workplaces. If skill standards are being developed to highlight the demands placed upon workers operating in innovative workplaces—workplaces where the emphasis is on solving problems, seeking ways to improve work methods, actively engaging with co-workers, and so on—then they are achieving mixed results. Only four of the 21 projects reviewed in the study were categorised as meeting the demands of such workplaces.

Bailey and Merritt (1995) draw a distinction between two broad conceptualisations of skills—the skills-components model, where skills are thought of as a collection of tasks, and the professional model, where skills are integrated into critical aspects of the job and the relevant industrial and organisational contexts. They argue that if skill standards systems are to meet the needs of innovative workplaces, then they must move away from the skills-components model and towards a professional model.

In the latter approach to setting standards, which is called the 'consolidated' approach, skills and skill standards have the following features:

> *Skills are more deeply based on the worker's established role or purpose within the organization and not on a set of tasks that they are required to perform. Skills often focus on the worker's responsibility to the customer or to the overall mission of the organization rather than primarily on the way in which employers define an employee's tasks / duties in a narrow context. The worker role is not differentiated from the learner role. Skills may be both inherent and acquired but are not necessarily specified to the level of detail of the worker's particular responsibilities ... The consolidated approach structures skill standards in a framework that depends fundamentally on broad-based workplace scenarios rather than specific worker tasks to produce occupational profiles. This is more in line with the professional view of work which is less structured and more autonomous.*
>
> (Bailey & Merritt 1995, p.30)

This approach to setting standards is not well represented in the policy guidelines which have been developed for Australian VET. The approaches to understanding skill and structuring skill standards established by government agencies in Australia are somewhat different to what is being advocated in the United States of America.

2.2 Australian studies

Like the British model of competency-based VET, the Australian model (CBT) gives priority to outcomes. Four key defining features of CBT are: (i) specified training and assessment outcomes; (ii) industry involvement in defining these outcomes; (iii) competency standards as the expression of these outcomes; and (iv) training programs based on industry competency standards. These features were used to guide the selection of the content of this, the second part, of the review of CBT and its implications, which is organised in what it is to follow as five broad themes.

Broadly categorised, the Australian literature falls into the following three domains: an extensive *technical* literature which includes accounts of processes, principles and issues involved in the change to CBT as well as official and promotional material (NTB 1991, 1992; ACCI 1993; Harris 1996a); *descriptive* and *evaluative* studies of competency-based vocational education and training designed to explore the degree to which the CBT programme is achieving its stated aims and inform vocational training policy and practice on specific problems of implementation (Harper 1997; Smith et al. 1997, 1996; Cornford 1997; Simons 1996; Watson 1993; Robinson 1993; Candy & Harris 1990; Harris et al. 1987, 1985); *critical analyses* of the central ideas and assumptions of CBT and its underlying theories (Stevenson 1993; Billett 1996b, 1995; Marginson 1995, 1993, 1992; Brown 1992; Porter, Rizvi, Knight & Lingard 1992).

What counts as competency?

A continuing concern of Australian studies in relation to competency training involves definitions of occupational competence. The conception of competency, which has been contested generally within Australian VET, has undergone substantial change over the past few years (Ducker 1993). Some of these changes are described below.

a. Behaviourist definitions of competency

Early, formal definitions of competency invoked a behaviourist construction. Competency is what a person should be able to do and the focus rests clearly upon existing 'observable occupational functions and tasks … along with standards to which those functions and tasks must be performed' (Bowden & Masters 1993, p.160). These functions and tasks are then 'transposed into a set of standardised learning sequences' (Chappell, Gonczi & Hager 1995, p.176) in competency-based curriculum.

Sweet (1994, p.59) described this behaviourist construction of competency as too narrow and 'unable to cope with the demands of multi-skilling or with the demands for broader personal and social competence required by new forms of work organisation'. Such a construction takes an instrumental view of work that leads to an emphasis on specific technical skills at the expense of the increasingly complex demands of the workplace. The danger of standards becoming 'atomistic', and leading to the fragmentation of occupations into 'a myriad of tasks' (Hager & Gonczi 1993, p.41)—and, by implication, a curriculum in which tasks are taught separately without a concern for their interrelatedness—has also been well-canvassed (see, for example, Jackson 1993, pp.48–9). The development of lengthy assessment checklists of measurable outcomes is a potential consequence of such an approach, and often limits assessment to what can be measured relatively easily.

b. Cognitive definitions of competency

An alternative construction of competency is one that is generally referred to as *expertise.* Drawing on cognitive and developmental psychology, overall competency is seen to develop as more specific competencies are integrated at higher levels, that is, as the worker / student moves from novice to expert status. As proposed by this psychology, expertise is the skilful use of knowledge. Such cognitive constructions of competency tend to focus on the *potential* for completing tasks, rather than performance of the task itself, and upon the attributes possessed by the individual worker / student that may be brought to bear in task accomplishment.

Thus an attempt at consensual definition by the National Training Board (NTB) (1992, p.29), while focusing on behaviours in specific tasks, also incorporated this cognitive, psychological dimension of competency. Competency here included the ability to transfer knowledge and skill to new tasks and situations and to manage unforeseen contingencies. The definition also addressed the concerns of some critics of the narrower construction, by including problem-solving abilities and the 'right' work attitudes required for workplace productivity (Stevenson 1995, p.360).

c. Competency as social practice

Much of the cognitive discourse surrounding competency excludes the situated, embodied or practical knowledge, the often tacit, intuitive understandings acquired in particular contexts, but impossible to incorporate adequately into written, instructional materials. Mulcahy (1996, p.62) describes how teachers need to undertake 'recuperative work' on the curriculum to reincorporate such knowledge. Similarly, Evans and Butler (1992) explain the embodied nature of welding skills and the difficulties of acquiring them without the direct assistance of expert demonstration.

Psychological, cognitive views of competency are also individualistic, seeing competency as a property of individual persons (together with the job, perhaps), rather than as a process of interaction that is 'defined and organised as the product of collected or concerted actions of whole groups of people, in ways that then give shape to individual understanding and experience' (Jackson 1991, p.17). A socio-cultural perspective on competence is thereby excluded. Thus, such cognitive views of competency seem a far cry from the notion of 'competence-in-use', which understands competency as a process which forms part of other processes, for example, workplace learning and workplace innovation—where innovation is taken to be socially constructed.

Nor does a cognitive view appear to be linked to the 'work process knowledge' (Attwell 1997) that is associated with social innovation, nor to the 'strategic competence' (Mawer 1992) that is involved in the capacity to deal effectively with workplace change. Thus, it would seem necessary to augment the view of competency provided by cognitive psychology with a view which emphasises the situatedness and embeddedness of social practice.

The socio-cultural perspective on competence emerges most strongly in analytical approaches taken by Australian researchers in the field of vocational expertise and workplace learning (Stevenson 1996; Beven 1998; Billett 1998a, 1996a, 1996b, 1994b, 1993; Harris and Volet 1997, 1996) who tend to the view that workplace contexts constitute learning as a process that is integral to and in parallel with work. As Billett (1994b, 1993) suggests, work becomes learning and learning becomes work. On this view, competence forms part of the broader term expertise. Like expertise, competence has a contextual character. Its development is both the product and process of identifying strategies which enable workers to use their job experiences for learning.

Competency standards

Another preoccupation of Australian studies which is important to considering the contribution of CBT to outcomes in VET, concerns the content, role and status of competency standards. In one of the most comprehensive critiques of Australia's national industry standards, Richard Sweet (1994, p.78) states that 'overseas experience shows that agreed national outcomes for vocational education and training, determined between the industry parties, are most widely used where they are phrased most broadly'. More specifically, this experience suggests that the specific criteria used to determine performance on a skill are best left to the discretion of the firm or the institution providing vocational education and training. 'The German experience in particular shows that leaving such matters of detail to the firm allows firms with widely differing characteristics and competitive strategies to participate in the vocational education and training system' (Sweet 1994, p.78).

Australian experience, most particularly small business experience, suggests that competency standards should be structured in a framework which allows those using national standards for training to creatively interpret them. Thus, Childs (1997, p.33) argues that if providers and adult educators want to ensure that employers and employees gain access to national standards and enterprises participate in the national training system, they should 'creatively interpret the standards to reflect work practices (not vice versa) using the twin workbased learning concepts equivalence and relevance'.

In Sweet's view, the case for national industry standards can be made most strongly in relation to 'those broad foundation skills that constitute the "common currency" of working life in particular industries, and which are important in assisting flexibility and mobility within wide labour markets' (1994, p.82). A similar argument was made by the Allen Consulting Group (ACG) in a report commissioned by the Australian National Training Authority (ANTA):

> *The development and national endorsement of competency standards is strongly supported but cannot continue in its current form. Enterprises are looking for less prescriptive and less detailed standards frameworks which, while providing national competence benchmarks, leaves considerable discretion to users to interpret them in their own context. Providers are looking for similar flexibility so that modules, courses and training programs can be developed more quickly and cost effectively based on national competency frameworks rather than detailed prescriptions.*
>
> (ACG 1994, p.43)

One of the most comprehensive studies of training practices in industry (Hayton et al. 1996), which was conducted over a period of two years from 1994 to 1996, found a lack of clarity in enterprises in relation to national training reforms and national competency standards:

> *... the role of national standards was not clearly understood and many enterprises that had developed competency standards for their employees were unclear about the benefits of national endorsement of the standards or the mechanisms by which endorsement could be achieved. In some cases, the national training bodies were regarded as a bureaucratic barrier by enterprises who were, as a result, sceptical of the benefit that the national*

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> *training reforms might bring. This was particularly true for small businesses who found access to the system very difficult.*
>
> (Smith et al. 1995, p.6)

A growing body of empirical research (Childs & Wagner 1998; Wagner et al. 1996; Waterhouse & Sefton 1997; Virgona 1996; Cooney 1996; Deakin 1996) is providing evidence for the idea that competency standards, as currently constructed, do not reflect the requirements of particular enterprises and particular groups in the workplace. Thus, in the case of small business, owner–managers are claimed to be reluctant to share core business knowledge with employees and those outside the enterprise—including VET practitioners—as possession of this knowledge may be one of the factors that protect the business from competition (Childs & Wagner 1998, p.8).

Furthermore, standards do not represent workplace realities particularly well, inasmuch as a significant proportion of working knowledge and skill occurs *outside* formal training processes as 'sub-terrainean' knowledge and skill, and functions to protect the interests of various workplace groups (ibid. 1998, pp.7–8). The notion of 'sub-terrainean' knowledge and skill is related to the informal learning which proceeds seemingly invisibly in workplaces.

In the view of some commentators, processes of informal learning constitute a 'problem' for workplace learning when it is defined as formal training with prescribed outcomes. Thus, in their comparison of two companies engaged in the implementation of competency standards, Wagner et al. (1996, pp.109–110) observe that 'the inclusion of local knowledge appears as a problem in workplace training based on standards and predetermined criteria. ... Local skills / knowledge (folklore) in most instances is necessary for the functioning of the organisation but does not get recognised within competency training and assessment based on standards because standards represent "best practice" performances'.

According to Mulcahy (1998, 1997), the skills and knowledge which are codified in competency standards are dependent on other skills and knowledge which are not necessarily codifiable (i.e. tacit skill; experiential knowledge). As broader approaches to competence are considered, it is 'informal' skills and knowledge that will need to be taken into account.

A recently commissioned Victorian Office of Training and Further Education report presents the view that approaches involving 'national industry competency standards and the introduction of Competency-Based Training (CBT) to secure those standards ... are fundamentally flawed in achieving skilfulness and adaptability in the workforce .. and being relevant to enterprises' (Billett et al. 1997, chapter 3, p.1). According to the writers of this report (ibid. chapter 3, p.2), 'national competency standards fail to acknowledge that different activities occur in workplaces under the same occupational banner. What passes for appropriate performance in one workplace is likely to be inappropriate in another'.

The Australian model of competency-based VET would appear, from the evidence above, to have limitations with respect to the design and development of competency standards. Standards are central to the efficacy of this model: questioning the composition of standards is, by implication, questioning the composition of the model.

Constructing vocational knowledge and developing vocational expertise

A particular concern of critics of CBT lies with its potential for reducing the role of knowledge in education and training. 'The concept of competence has become associated with a drive toward more practicality in education and training, placing greater emphasis on the assessment of performance rather than knowledge' (Norris 1991, p.331).

There is evidence to suggest that CBT is a more effective way of delivering the training of detailed procedures than of facilitation skills (Smalley 1997, p.29). In other words, it lends itself to the formation of procedural knowledge rather than other forms of knowledge which are required for work today, such as knowledge that underpins the capacity to shape problem solutions to particular situations and other general, behavioural skills, such as facilitation and communication skills. In what follows, two perspectives on vocational knowledge are discussed as part of a broader consideration of the process of becoming an expert—learning—and the contribution of CBT to this process.

Cognitive perspectives: Two types of vocational knowledge are conceptual (or propositional) and procedural knowledge (knowing 'that' and knowing 'how'), each being used regularly both in routine and non-routine problem-solving (Billett 1994a). Non-routine problem-solving, however, requires that cognitive structures be transformed, thus furthering and developing, as well as reinforcing, knowledge. Conceptual knowledge ranges from simple, factual information to a deep and complex understanding of principles. Deep conceptual knowledge is said to enable the learner to abstract the necessary concepts and principles that form the basis of novel problem-solving and transfer across settings, a capacity that is associated with high levels of performance and expertise (Billett 1996c, p.31).

Yet, the development of deep, robust, transferable knowledge depends upon the learner negotiating meanings with the environment and constructing knowledge, rather than just acquiring it through internalisation from an external source. Cognitive approaches to knowledge construction, problem-solving and the development of expertise are seen as insufficient in themselves to account for the requirements of learning or of transfer processes. Rather, these are recognised as having social and community dimensions (Billett 1998a, 1996a, 1994a, 1994b; Lave 1993, 1990, 1988; Rogoff 1995).

Ellstrom (1997, p.272) outlines a number of different levels of learning for which different degrees of freedom are required and describes creative learning as that which takes place when people within a community of practice 'begin to reflect on and transform established ideologies, routines, structures and practices and, thereby, the community of practice itself'. He suggests that productive learning environments for developing creativity involve problem-solving and include the following:

- task complexity and autonomy for learners
- participation in goal-setting
- sufficient scope for learners to carry out experiments in order to test alternative solutions and improvements during ongoing production
- feedback

- opportunities for evaluation and reflection on the outcomes of acting in relation to tasks and goals

The importance of freedom in task definition, in methods of solving problems associated with the task and in evaluation of results are also emphasised, if creativity is to be encouraged.

Socio-cultural perspectives: From a socio-cultural perspective, Lave and Wenger (1991) describe learning as 'an integral and inseparable aspect of social practice' (ibid. p. 31), a situated activity characterised by 'legitimate peripheral participation' in a community of practice. Practices, then, are central to the appropriation of knowledge. The process of becoming a full, rather than a peripheral, participant engages the intentions of the learner and incorporates the learning of knowledgeable skills and the fashioning of new identities (Lave 1991). A community of practice is 'a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice' (Lave & Wenger 1991, p.98). Indeed, the existence of knowledge is contingent upon such communities, since interpretations of meaning (Billett 1996a, p.145) and links with other knowledge can only be formulated in relation to specific practices in specific contexts.

'Legitimacy of participation' relates to a sense of belonging to the community and is an element in learning content, as well as a prerequisite condition for learning processes. Participation in the community provides exemplars and the opportunity to absorb and to be absorbed within the culture. Gradually, understanding develops about approved forms of interaction within the community and with those outside it: what needs to be learned, valued or disputed. Opportunities are thus provided for identity change within the dynamic system of social relations afforded by the community. It is this construction of new and knowledgeably skilled identities (Lave & Wenger 1991, p.53)—related to ways in which people come to view themselves and are viewed by others within their social world through learning and development—that is seen as crucial to motivation and the construction of robust, transferable knowledge.

On the basis of a study of vocational knowledge deployment in hairdressing salons in a number of different locations in Australia and overseas, Billett (1996a) identified several different categories of vocational knowledge. These are: canonical knowledge that was common and transferable across all sites; knowledge privileged within a community of practice; and knowledge 'mediated by individuals' personal histories' (ibid. p.148). It appears that problem-solving uses all these forms of knowledge and, in addition, requires that the preferences of the client are considered. This latter finding indicates that competence cannot be defined by particular outcomes, but is better delineated as 'competence-in-use', or a 'situation-oriented ability to act'. Billett concluded that possibilities for problem-solving are very much constrained by socially determined practices which subsequently influence mental functions. The study also illustrates that: knowledge and concepts of expert performance are situated; purposes and the strategies for obtaining them are shaped by the community of practice, explaining difficulties of transfer; and guidance is needed to enable transfer to occur more effectively, thus highlighting the difficulties of creating appropriate, specific competency standards, even within a particular industry.

Vocational knowledge transfer

Competency-based training is intended primarily to produce flexible and adaptable skills at work. Competencies are assumed to be transferred when individuals move from education to work (Marginson 1995, p.104). What is the potential of CBT in relation to developing skills and knowledge that 'transfer'? Is it designed to enable the 'ability to develop knowledge, locate and acquire new knowledge developed elsewhere, diffuse knowledge throughout an organisation, see the connections between two very distinct pieces of knowledge, and embody knowledge in products and services', all of which, according to Lepani (1995, p.18) become critical factors in the new global economy. An important issue for any vocational training system is how to develop knowledgeable skills in such a way that individuals acquire the willingness and capacity to explore and apply their knowledge in diverse settings, innovate, construct new understandings in the process and disseminate them.

From a cognitive perspective, Stevenson (1991) describes the concept of *adaptability,* that is, the ability to use existing knowledge in new ways and unfamiliar situations that lead to the generation of 'significant new knowledge' in the process (Hager 1997, p.11). This is the essence of transfer, which may be specific (near) or non-specific (far). The former occurs during routine problem-solving when clear similarities exist between the original learning and the transfer task. The latter occurs particularly in non-routine problem-solving where considerable differences exist between the original learning and new requirements, and in which goals of the transfer task may be ill-defined or indeterminate.

The issue of transfer appears extremely complex. Marginson (1995, p.108) notes that the development of competence is domain-specific, that is, specific to the body of knowledge in which it was fostered. Thus, knowledge and competence in one domain will not, necessarily, be transferred to any other body of knowledge, in spite of similarities that might exist across domains. Nor does transfer occur readily across different settings within a particular domain, as Billett (1996c, pp.21–22) reports in relation to research on mathematics learning, which found that students often ignore their mathematical knowledge when confronted with everyday mathematical problems.

Transfer is said to be facilitated when knowledge structures are richly interconnected and linked, or indexed, to the circumstances of application. Yet, this requires deep learning within a specific context and 'situational aids which assist competent performance' (Billett 1996c, p.27). Thus transfer processes appear to be substantially influenced by interpretative and social factors. Stevenson's later work (1994) also stresses the crucial importance of developing links between conceptual and procedural knowledge and of embedding learning and problem-solving within a community of practice.

Brown et al. (1989), drawing on Lave's work, describe the importance of 'cognitive apprenticeship' in school learning, that is, the use of embedded, clearly contextualised activities and collaborative learning to facilitate the formation of generalisations and the processes of recall and transfer. Similarly, Billett (1994a, p.13) argues a case for 'authentic learning experiences' which 'drive the learner into activities that are socio-culturally meaningful, generative of proceduralisation and indexed richly to secure recall and application'—thus engaging the 'higher order cognitive procedures' that Stevenson (1991) suggests lead to an enhanced likelihood of transfer. Indeed, Billett (1996a, p.34) notes that organising learning within the workplace is 'all about placing the learner in the highly active role of a constructor of knowledge' through engaging in workplace activities that require problem-solving processes.

Yet, transfer will still not occur automatically under such conditions. Dweck (1986) notes the importance of motivational processes in the transfer of learning to novel situations. Differences in goal orientation and self-conception, related to attributed reasons for prior success or failure, for example, appear highly influential in determining whether an effort to transfer new learning to different problems will occur. Pea (1987) argues that transfer is selective, according to the cultural interpretation of its appropriateness in context. Indeed, all cognitive structures are underpinned by these value-laden dispositions (Billett 1996a, p.144) and it is likely that the development of identities as problem-solvers and knowledge constructors is necessary if transfer opportunities are likely to be sought (James 1997, p.212). Thus, cognition, emotion, intention, values, identity and the nature of the social practices engaged in, appear to be inextricably linked to the realisation of transfer.

Generic or key competencies

In a move to provide clear links between education and the workplace, and in line with worldwide trends, certain so-called key, or generic, competencies have been identified, in addition to the specific competencies required to perform particular tasks or jobs within an industry. These correspond to the 'core' skills of Europe and the United Kingdom, the 'essential' skills of New Zealand and the 'foundation' skills or workplace competencies (SCANS) of the United States (Smith & Keating 1997).

Generic competencies are assumed to be transferable to new contexts. Thus, on the basis of a synthesis of research involving key competencies, Hager (1997, p.12) asserts that they enable learners to 'develop other capacities increasingly valued in the workplace, such as creating an enterprising culture, assuring quality, learning to learn and lifelong learning', while also assisting in motivating young, unemployed people to participate in education and training. Key competencies are also a major feature of work in those workplaces that emphasise high-quality products and high performance (Hager 1997, p.14).

Yet, Hager also concluded that 'industry specific versions of key competencies' (Hager et al. 1996, p.iv) should be developed since, for example, problem solving, communication and teamwork all appear to change with the demands of the job and the purposes and context of the work environment (Hager 1997, p.14). For example, in customer service industries, problem solving was seen as 'dealing with difficult or dissatisfied customers', while, in the metal industry, by contrast, problem solving was seen as 'fault-finding' (Hager 1996, p.208).

In addition, different combinations of key competencies are required in different industries and occupations, with customer service industries demanding the use of a wider range of key competencies than other industries (Gonczi et al. 1995).

Thus, in spite of claims for the generalisability of key competencies across industry sectors and from training setting to workplace (Mayer 1992, p.5), Hager et al. (1996, p.13), recognise that even these competencies are 'situated', that is, acquired through participating in specific communities of practice and subject to similar transfer problems as specific competencies. Indeed, a growing body of empirical evidence exists for the idea that generic competencies are not different in kind to specific competencies. As Billett et al. (1997, chapter 3, p.2) report, key competencies 'need to be contextualised, as different jobs require differing applications of these competencies' (Yeung, Woolcock & Sullivan 1996). They are, like specific competencies, domain and situation specific. Perkins and Salomon (1989, p.19, cited in Marginson 1995, p.109) note that:

> *The case for generalisable, context-independent skills and strategies that can be trained in one context and transferred to other domains has proved more a matter of wishful thinking rather than hard empirical evidence.*

It appears, then, that the requirements of different enterprises in the area of key competencies (as with competency standards, within and across industry sectors) are extremely diverse, thus virtually precluding the notion of nationally prescribed standards for key competencies or methods for their attainment.

Overall, it appears that no list of outcome statements or industry competencies can ever be appropriate for all industries and all enterprises in all contexts. The idea of a single acceptable outcome also potentially ignores the creative and critical thinking required in novel circumstances (Chappell, Gonczi & Hager 1995, p.117). In addition, the complexity of student and trainee learning and motivation and the diversity of individual and cultural preferences can never be fully acknowledged by expert practitioners or training providers from outside. Each training program needs to be contextualised in its content and delivery according to the needs of the enterprise and the personal and cultural concerns of the individual students or workers.

3 The national survey

The aim of the survey component of the evaluation was to establish how CBT is being used in different industries and individual enterprises and its effectiveness as a model of training according to training managers (or equivalent personnel). The survey was intended to provide a broad picture of CBT, establishing the technical component of the evaluation, that is: how CBT is being implemented; how competency standards are used in enterprises and how effective competency standards and CBT are perceived to be within each enterprise.

The broad questions guiding the design of the protocols used to collect information for the survey were:

What evidence is there that CBT is achieving its intended outcomes, and what are these outcomes? More specifically, what evidence is there that CBT, as a model of VET, is effective in meeting industry goals for a skilled workforce and providing other benefits in VET? *(technical perspective)*

The survey examined the following issues in particular:

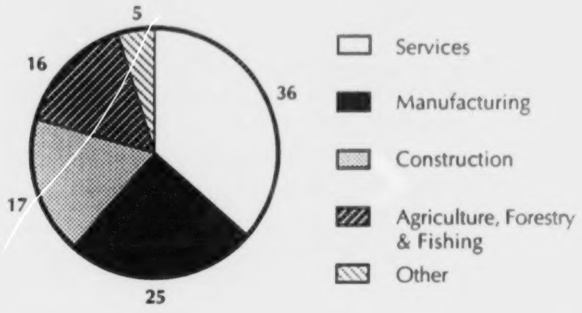
- the nature and structure of training provision in the industry sectors selected for analysis
- the nature and structure of training provision in the enterprises selected for analysis
- expectations of CBT in these enterprises
- the types of standards used
- the relationship between training and competency standards
- outcomes of CBT as experienced by enterprises
- advantages and disadvantages of CBT as a training approach
- issues arising from CBT as a training approach
- the overall effectiveness of CBT

3.1 Methodology

One hundred and ninety-five company training managers (or equivalent personnel) were each interviewed by telephone for approximately 20 minutes (see Appendix 4). The companies contacted were located in seven States and Territories of Australia (New South Wales, Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia) and four major industry sectors: manufacturing; services; construction; agriculture, forestry and fishing. Some mining and other companies (classified as 'other' in tables and figures) were also accessed both in Western Australia and the Northern Territory.

The number of interviews conducted in each State and Territory by industry sector is shown in Table 3.1 (see Appendix 1) and the proportion of interviews in each industry sector in Figure 3.1. While the large States were almost equally represented, in Tasmania and Northern Territory, with relatively tiny populations, a somewhat smaller proportion of interviews was undertaken. As seen in Figure 3.1, services and manufacturing companies predominated among those contacted, roughly reflecting employment patterns within the Australian workforce (NCVER 1998, p. ix).

Figure 3.1: Proportion (%) of interviews conducted in each industry sector



The four major industry sectors were selected because of contrasting characteristics and the opportunities they provided for examining CBT in a range of different contexts. A balance was sought between large, medium and small companies and those companies in urban and regional Australia (including 12 companies in remote areas). As seen in Table 3.2 (see Appendix 1), small or regional companies tended to be somewhat under-represented in all States except Tasmania, the Northern Territory and Western Australia. Overall, however, as seen in figures 3.2 and 3.3, almost a third of the companies were small and almost half the companies regional. Table 3.3 (see Appendix 1) also shows that, while large, urban companies were somewhat over-represented among those contacted, the proportions in other categories were almost equal. When comparing the proportion of interviews conducted in each of the major industry sectors, however (see figures 3.4 and 3.5), as might be expected, small and regional companies predominated only in agriculture, forestry and fishing.

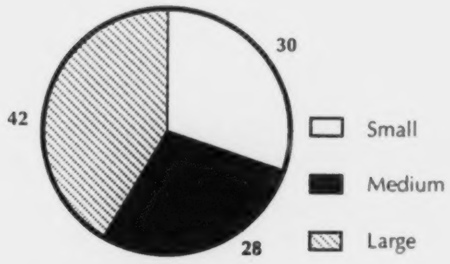


Figure 3.2:
Proportion (%) of interviews conducted in companies of different size

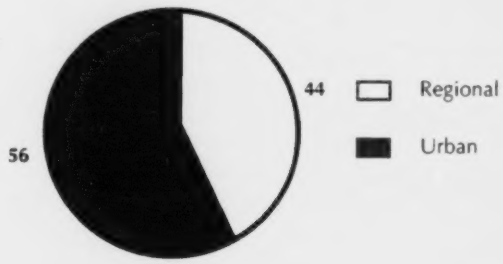


Figure 3.3:
Proportion (%) of interviews conducted in companies in different locations

Diversity of industry sector also afforded the opportunity, as seen in Table 3.4 (see Appendix 1), for gathering information both from industries dominated by male and permanent employment (manufacturing, construction) and industries employing a greater proportion of females (health and community services, retail) and casual labour (retail and agriculture, forestry and fishing). A list of the types of companies contacted in each industry sector is provided in Table 3.5 (see Appendix 1).

Figure 3.4: **Proportion of interviews conducted in companies of different size—by industry sector (as a % of total number of companies in each sector)**

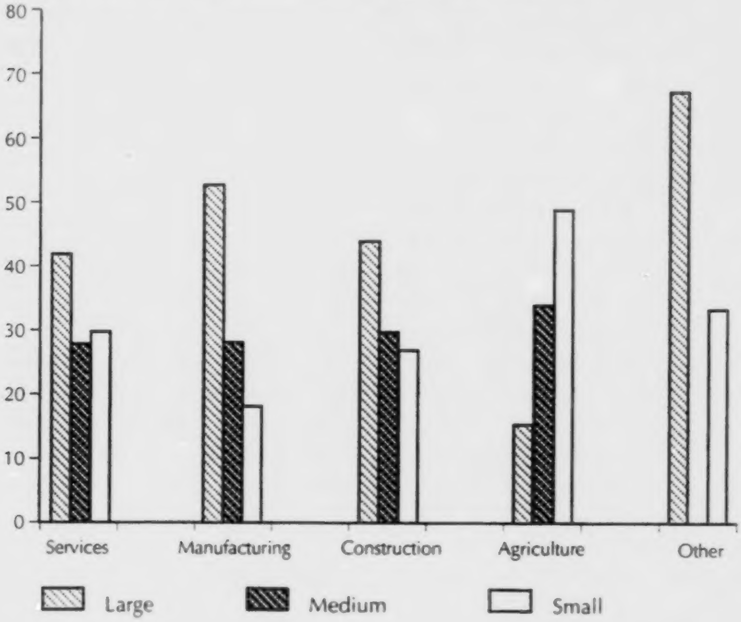
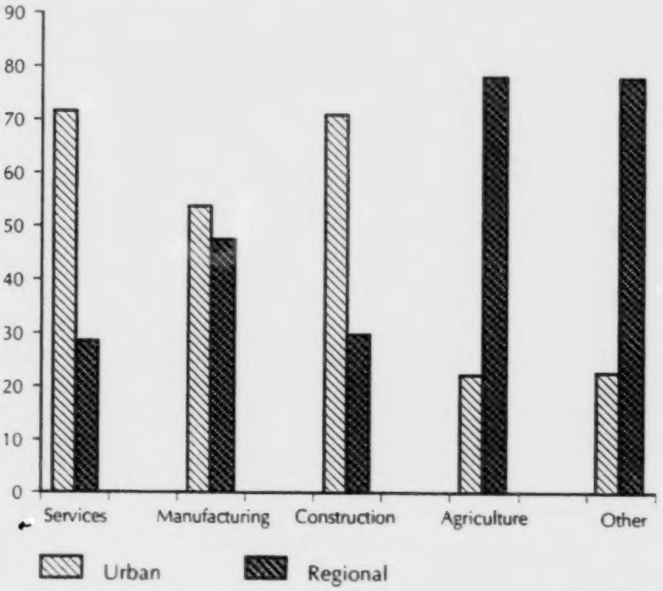


Figure 3.5: **Proportion of interviews conducted in companies in different locations—by industry sector (as a % of total number of companies in each sector)**



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3.2 The character of competency training

As seen in Table 3.6 (see Appendix 1), most of the companies contacted conduct on-site or in-house training for at least some of their workers. This training can take the form of on-the-job or off-the-job training, and uses enterprise-based teachers and trainers (EBTs), who may be company personnel or those employed by TAFE or private providers. Many workers also undertake courses externally, frequently with TAFE or private training organisations. Some senior personnel attend university or industry accredited programs. In-house and TAFE courses are, for the most part, competency-based but, at times, in-house training is conducted informally (see below).

The vast majority of companies (particularly those in manufacturing) provide CBT that aligns with national standards though, in all but agriculture, forestry and fishing, a high proportion of companies apparently choose to augment these standards with those that are enterprise-specific. A very small proportion of companies (7%), and almost exclusively in services, reported operating with enterprise standards only. Some enterprises conduct other programs, for example, induction programs which are not standards-based though, particularly in the area of occupational health and safety (OH&S), some induction programs do conform to national or enterprise standards.

Many companies, particularly those in the agriculture, forestry and fishing, and construction industries, also provide or encourage training according to other standards in, for example, professional development courses for management personnel or short courses accredited by the Department of Primary Industries or by the Masters Builders' Association respectively. Personnel in more companies than indicated in Table 3.6 (see Appendix 1) may be undertaking such additional courses. However, because of the explicit CBT focus of this study, these courses, and much informal training, may not have been reported.

As shown in Table 3.6 (see Appendix 1), about a fifth of the companies selected for interviews had a good reputation for training, perhaps because these companies were accessed through the recommendations of ITABs. Only a relatively small proportion was known to have a poor reputation. Yet, about half of the companies had no particular reputation for CBT (and for many companies there was no information on this point). Thus it is unlikely that the data were skewed significantly towards those companies that looked especially favourably on CBT. Indeed, companies with a negative reputation appeared, in general, to be no more negative in their views than others.

What counts as competence? '(You) either can do it, or can't do it—practical!'

A clear finding was that training is delivered most effectively on-site by EBTs or teachers and trainers who can meet the needs identified by the enterprise. Given that CBT is commonly conceived as 'specific skills for specific jobs', EBTs are best placed to facilitate this skill acquisition.

Comments such as the following were quite common:

> *TAFE has been unable to specifically design courses to gain competency for the specific jobs we have.*
>
> *College work doesn't always relate to the realities of the workplace.*
>
> *Lots of training institutions (are) paying lip service to CBT but (are) stuck in (the) old system—teaching CBT in the classroom.*

Thus, CBT was defined as 'practical', a 'hands-on do program', not 'classroom training' or 'pure knowledge' or 'talking heads'. This definition is based on the assumption that there is a direct relationship between workplace performance and human competency, the so-called, behaviouristic approach to competence. 'Their performance on the job says it all.' It is training that 'fit(s) directly into known skill sets' and is 'based on standard levels of competency in a particular field'. It is not 'giving facts, information and technical knowledge'. The following series of quotations illustrate the dominant 'practical' or performance-based discourse of CBT:

> *This firm finds it hard to get CBT from local training companies. Often what is provided is still old school training. Apprentice training provided by TAFE is not CBT but is moving in that direction. TAFE would say everything at TAFE is CBT but we would say it's not within cooee.*
>
> (Group of Training and Development Managers, Large Manufacturing Plant, Victoria)
>
> *Apprentices aren't doing it (CBT) in the true sense. They go to TAFE and do theory and practical tests. Trainees and operators are learning and assessed on the job. This is true CBT.*
>
> (Large Manufacturing Plant, Victoria)
>
> *CBT gives us what we need as long as we can get the garbage out of it. That is, the extra content that is not required and is still included by TAFE.*
>
> (Small Retail Business, Queensland)
>
> *CBT is a benefit to this industry as you definitely finish up with a person who is tailor skilled to your business ... You know they've been shown thoroughly and checked a few times ... rather than they got a pass mark at school but do they really know how to do it?*
>
> (Owner / Operator of Small Business, Victoria)
>
> *With some training the teachers are teachers because they would never make it in industry. So by training our own staff, we can ensure the quality of the skills taught is high and the information current.*
>
> (Small Plant Nursery, Victoria)

Thus, what counts as occupational competence in industry and enterprise is the ability to perform at a specified standard: 'really know(ing) how to do it'. A number of training managers expressed concerns about this view as follows:

> *(CBT is) useful for skills development but not always effective when attitudinal / behavioural change is required, (for example, a cultural shift).*
>
> *Some competencies in human services are difficult to quantify, (for example, attitudes, ethics, values) so (CBT) gets put into the too-hard basket.*

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> *To be a nurse you have to like people and this is something that you can't measure.*
>
> *Groups of competencies need to be linked effectively to bring about change. There is often a tendency to look at competencies as individual actions.*
>
> *It is possible to get so tied up in competencies that you don't see the big picture of someone's job... and miss on the cultural things.*
>
> *Competencies don't suit all work situations.*

The concerns above tend to grow particularly out of occupational areas such as community services and health, municipal services, education and training, and architecture, which espouse a 'professional' view of skills. These training managers were also concerned about the personal, as well as the professional, development of their staff that 'reflects in how everyone approaches their work'. In health services, training is to produce 'assertive, informed carers' and, in community services, philosophical standards have been developed 'to ensure that the moral, the ethical and the cultural are not forgotten'—'to put back the bits that were missing'.

Standards and skills: 'It's not always relevant to use national standards as enterprise specific standards produce direct results'

The tension between specific skill standards—standards specific and relevant to a single enterprise—and generic skill standards—standards specific to industry or not specific to a single enterprise—is common to all countries using a skill or competency standards training system. To what extent can standards be made enterprise specific while still allowing skills portability?

A common finding was that the development and national endorsement of competency standards was strongly supported by enterprises where such standards were seen to be useful. A training manager in a large South Australian manufacturing firm explained his company's choice of standards thus:

> *(We chose national standards) because they were national, gave us the accepted standard and employees workplace flexibility when moving (from) State to State, or workplace to workplace.*

This is a 'win-win' situation, where standards are perceived to produce benefits for both employers and employees. Indeed, competency standards, in the companies contacted, were commonly used in order to:

- provide training and link it to job requirements
- develop specific skills for specific jobs and assess and standardise those skills
- raise skill levels over the industry; 'improve the skill levels for all employees as there will be a flow on effect'
- ensure quality and stay competitive
- measure performance, for example, feed into performance management systems
- link pay structures to competencies achieved (where enterprise agreements obtain)
- assist employees who are semi-skilled to gain qualifications and facilitate recognition of prior learning (RPL)

- link theory to practice
- help clarify the competencies which link to specific recognised training and formal qualifications
- help define levels of competency and provide a template for determining the quality of recruits

In relation to the choice between using national industry standards and enterprise standards, decisions seem to be made situationally. Thus the record of interview from a group of training managers in a large Victorian manufacturing company reads as follows:

> *The training areas 'don't believe that they could adequately train people to standards written at industry level' as these standards are 'far too broad' and for this organisation 'the devil is the detail'. By developing their own standards they 'got what they wanted'. The other issue was the IR (industrial relations) agenda. The management of the firm was concerned that if national standards were adopted then the unions would argue that pay be changed to reflect national levels.*

A plant nursery reported gaining accreditation for training that was 'miles ahead' of industry competency standards. These enterprise standards were then recorded 'in a 40 page book'. Enterprise standards can also be used to let employees know what skills are considered important, for example, computer skills, in the community services sector and, at times, no appropriate national standards are available.

Generally, a *composite approach* appeared common in relation to choosing competency standards. The lack of enterprise specificity of industry standards was an issue for many training managers: 'Competencies are often too broad', and:

> *Standards are written to cover a whole industry and when you look at them you have to agree that they are right. However, they often cover areas in more detail than each individual firm needs to cover it, therefore (they) can be very costly to follow. There needs to be more flexibility so that each enterprise can take what it needs from the competency standards and implement them without being in contravention of the standards.*
>
> (Large Construction Company, Victoria)

Such flexibility is clearly employed in the airline industry where: 'Industry-specific skills are very important. "Use existing skills and modify to suit the task" seems to be the rule.'

This issue is also negotiated using a 'mix and match' or 'top up' strategy, as suggested in the following:

> *National laundry standards are used where possible. When the industry standard is not specific enough then an enterprise standard is used. We adapt and change things to suit the process here.*
>
> (Medium-Size Light Manufacturing Company, Victoria)

> *Can use competency standards as a generic tool from (training) package but have decided to target competencies to meet specific company needs, which means a lot more lead time has been needed in order to determine exactly what our needs are and to tailor the training to meet these needs.*
>
> (Medium-Size Manufacturing Company, South Australia)

> *National competency standards are used to improve skills, give formal qualifications, facilitate RPL (both within and outside the enterprise) and allow trainees to gain credits for further studies at TAFE or university. Enterprise standards are used to improve skills and ensure that relevant and specific skills are taught.*
>
> (Large Manufacturing Company, Victoria)

Informal standards were also acknowledged. These are: 'Not recorded. They are what the market expects, such as that a coffee will come a certain way or that the lettuce will be washed'. Training is then based on 'experience not theory', that is, the 'collective experience of managers, not something that comes from a book'. Quality manuals also provide standards. Many trades operate according to a number of legislative and other regulatory standards. Certain hotels have to meet international as well as national standards, while making the necessary adjustments for Australian conditions. Other standards, for example, philosophical standards, have been developed for community services. Thus enterprises usually work to a number of different standards, while making their choices according to special circumstances.

Nevertheless, numerous issues in relation to standards remain unresolved. These concern:

- the derivation of standards. 'National training packages seem to spend hours on some things to the detriment of trade skills. Quality and safety are an add-on, when instead they should be built into trade skills. ...I've never seen anyone talk to our foreman of carpenters and ask him about training in our industry. If we want to get really good at this, we need to talk to the people out in the dirt'. 'There is a big gap between enterprise needs and what is out there nationally... Standards become fragmented due to the huge number of players...'. 'The scope and level of competencies are not always relevant to the workplace, depending on the definition of competence—how it is arrived at'
- the plethora of standards. These may be 'a waste of resources' and a source of confusion, for example, 'With forklifts there are three standards—State, Federal and Australian'
- the adequacy of national standards. In the automotive industry, one training manager suggested that national standards catered to 'the lowest common denominator' and were well below standards in their industry
- the narrowness of enterprise standards. An instrument repairer commented that his enterprise has now outgrown national standards. Yet, a manufacturer reported that, with enterprise standards, 'there is a risk that you could make a guy so narrow that you could make them unemployable in any other industry or organisation'. In the training of naval technicians, a training manager explained that they have 'come full circle' in returning to industry standards for portability after 'training as enterprise-specifically as possible'
- the language of standards. In the retail industry, one interviewee commented: 'National competencies are written in a peculiar language of their own, sometimes extremely general, at other times extremely specific'. This sentiment was also echoed in a number of other areas, for example welding, where the meaning of some of the written competencies was said to be unclear
- the distortion of national standards. One interviewee thought that training providers were driving the agenda and writing courses without the expertise to deliver them. 'Because $$$ are available from AAA package, providers are

coming out of the woodwork and presenting packages that are distorting the principle of national standards'

Training for whom? 'It works well in the more basic skill levels'

There was some evidence that CBT is considered most applicable and effective in relation to operator, trade and traineeship training for full-time, permanent staff: 'It works well in the more basic skill levels, but the higher up the tree you get the less CBT training is available, but it is harder for it to be specific.' Concerns were expressed that CBT may be imposed at higher, as well as basic, levels and undermine professional work. A cautionary note was struck by a retail training manager who commented in relation to management training: 'But national standards can't pigeon-hole everyone ... it can reduce innovation. CBT can't be used for everything. We need to be careful how it's used'. Similarly, a welfare provider questioned the wisdom of developing competencies for social work.

While management training is provided through ANTA's Front-Line Management Initiative, and senior managers undertake Australian Institute of Management courses, one training manager complained: 'These high-powered managers, they don't believe they need training; they believe that they don't have time to invest in personal development—perhaps because they need it most'. Postgraduate courses for management (not CBT) were mentioned in many companies, but more often it seemed that: 'Senior management training is limited, insignificant', or 'sporadic and not well-planned'. 'All we do is brush them up', said one interviewee. Yet, in relation to CBT: 'How can you measure something like the ability to develop policies?'.

While casual staff were usually provided with site-specific, on-the-job training, and training 'to increase awareness of product and safety', in a number of enterprises this appeared to be the limit of their development. In some companies, for example a yarn manufacturer, most casual staff were female. It is a 'question of resources' and costs one interviewee explained. Enterprises face the prospect of losing their casual workers to 'other workplaces / States / countries!' and 'seasonal staff are so casual that they often don't take it at all seriously'. Alternatively, one interviewee in a Service industry commented: 'We have a large number of casual / part-time workers who we really rely on to maintain our service standards. We try to develop them as much as we do our full-time staff'.

In relation to workers with limited educational attainment or disabilities, and from a non-English-speaking background (NESB), both positive and negative effects of CBT were reported. Some training managers saw CBT as helping 'to ensure that all people get access to training and help when they need it'. CBT was also seen as a way of recognising the work of so-called 'unskilled workers' who have often been exploited. However, in an engineering company, it was noted that sometimes CBT 'assumes that people are going to be competent in less time than it used to take. So CBT works well for the quick learners and places the slow learners at a disadvantage'. Yet, another training manager asserted that he dealt with this difficulty by teaching people to different standards according to their capabilities.

One training manager explained, of NESB workers that he was: 'Trying to provide training to an employee group who really don't often get much offered in their direction'. Others spoke of 'implementing co-programs of language and literacy content as part of a CBT approach', and of 'getting some funding for literacy projects'. One training manager reported employing a large multicultural workforce (15 different languages spoken) and four hearing impaired workers and commented: 'CBT has assisted in motivating the workforce and encouraged them to work effectively together'. In a small business, however, it was reported that when people's literacy and numeracy problems became public with the adoption of CBT, that 'was a bit difficult to deal with'. One interviewee commented: 'I would like to see more practical testing, even oral tests. CBT does not cater for non-English speaking people. More needs to be done for that group'.

3.3 Contribution of CBT: Industry and enterprises

Given that training authorities cannot force companies to adopt CBT, competency-based approaches must be perceived as relevant both to industries and individual enterprises for an investment to be made. Three *broad interrelated areas of benefit* to industry and enterprises could be identified from the telephone interviews. Competency-based training was generally acknowledged to be an effective vehicle for:

- providing workplace-relevant training for workforce planning, that is, specific skills training, learning and assessing on-the-job and specific recognised training—with formal acknowledgement of skills in a qualification structure
- assisting in enterprise development in adapting to and managing the changing realities of the workplace
- ensuring workplace and industry accountability

Workplace-relevant training for workforce planning: 'What you need is what you get'

Evidence from training managers showed a strong commitment to competency training, where CBT was seen as a direct response to the needs of the workplace and broader goals, such as acquiring skills and qualifications that are recognised across Australia. Thus, commitment to CBT was commonly associated with securing the following:

- improved productivity through, for example, enhanced customer service
- improved efficiency and effectiveness
- improved quality—'production of quality product'; 'market edge'
- increased skills for achieving business goals, for example, organisational flexibility, most particularly, multi-skilling and cross-skilling
- registration to apply for tenders within industry
- recognised skills, including recognition of prior learning
- quality credentials: 'useful marketing tools'
- reduced safety and production costs: 'while we run training safety is better'
- improved motivation to achieve where competency is linked to pay rises
- enhanced personal development and organisational development
- career paths: 'When someone wants to undertake further training, we can say to them: Here are the things you need to do'

For example, in a medium-size horticultural production company in Tasmania, it was explained that standards are being used for:

> *Productivity—quality and quantity. Productivity related to training by the way in which we work, better able to produce a quality finish, for example, grafting now up to 90–95 per cent success rate from 60–70 per cent success rate. Had to convince the workforce to produce a quality product, as this guarantees everyone work.*

Further comments concerning benefits for enterprises were as follows:

> *Proof of performance rather than proof of student-hood. Closer alignment between training and workplace; we know that workers are competent when they are employed.*
>
> *Tailor-making a tradesperson to your own organisational requirements; train (people) in the way the company wants them trained. In the workplace, we want people to do a certain job. Improves the relevance of training to enterprise concerns.*
>
> *Focus(es) supervisors to training needs. Forces bosses to deal with specific behaviours not personalities.*
>
> *Removal of time as a factor (means) we can often sign off apprentices much faster; shortened length of time apprentices are away from the organisation.*
>
> *Provides more flexibility, for example, cross training; people with existing skills can be upskilled; flexibility is good—companies who want to set own standards can.*
>
> *Confirms that final performance meets the basic requirements; competent people is biggest advantage—integrity and reliability of trainees' training from a managers point of view. Results in optimum productivity levels—all staff are skilled to certain level; legitimates standards. Clearly establishes an end product; with CBT, we finish up with a better trained person.*
>
> *Through CBT, we constantly evaluate the company's standards and its ethics. People are getting different things from it—better working conditions, better knowledge of skills, better use of workers, better recognition for skills developed—and more. Reduced costs, waste and helped us fulfill our role as a corporate citizen. CBT has been effective for this organisation as evidenced by the reduction in fires. Fewer mistakes.*

The commentary above, which was typical of the interviews, indicated that training produces benefits for employers by way of increased productivity and the capacity to deal with technological and other workplace change. This is accomplished by linking into a whole range of human resource development and management practices, for example, performance planning and review, succession planning, work design, classification, career paths, and recruitment and selection. Indeed, one training manager complained that CBT was being 'HR (human resources) driven'.

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CBT and enterprise development and innovation: '(CBT) takes the guesswork out of training'

There was ample reference in the interview material to the potential of CBT in relation to areas of innovation within enterprises such as quality management and customer service. Competency training was assumed to be fundamental if workers were to adjust to changing organisational structures and business practices.

> *Staff are expected to be able to keep up and get ahead of modern expectations, particularly in the area of quality assurance and safety. (Here) there are society and industry standards of performance and staff must meet these standards.*
>
> (Large Construction Company, Victoria)

> *Quality, safety and environmental standards are often specified in tenders now and the use of national competency standards is often part of the tendering process. The use of these standards also occurs because of moral, ethical and legal requirements, that senior management and owners try to minimise.*
>
> (Large Construction Company, Victoria)

The principal emphasis was on *training to adapt* to and *manage the changing realities of the workplace*, for example, changes in technology and technique. Thus, a medium-size horticulture company in rural Tasmania expected training to facilitate: 'the ability for all employees to adapt to change … to build in flexibility where people are committed … hearts and minds stuff—commitment'.

There was less emphasis on the design of training environments in which workers are helped to construct knowledge themselves (and thus engage in reshaping or redesigning work and other innovative activity). A training manager in a large construction company in Victoria spoke to quality issues and training in these terms:

> *QA (quality assurance) is a blessing as it stops dangerous corner cutting. It is used because of business and contractual agreements and now it's inculcated in the company. Environmental accreditation is massive and forms part of training. It is also used because of business and contractual agreements.*

There was also evidence to suggest that training was required to gain quality accreditation and that competency training aligns well with this requirement, as with a range of corporate initiatives. As a training manager in a large South Australian car components plant reported, CBT is 'a systematic way to introduce training'. It sits well with other systems arrangements, such as performance management and quality control systems, where quality standards are used to measure the company's performance and the returns it might make on its training investment. Thus training, most particularly in large enterprises, appears to operate as a strategic management tool.

> *The company also conducts a corporate coach program. Staff are required to undergo a behavioural (personality) test and based on their results they will be required to undergo coaching in particular behaviour.*
>
> (Large Construction Company, Victoria)

> *(We) use competencies to transfer from department to department so people can see when a position is advertised what skills are required and then match their own.*
>
> (Large Manufacturing Company, South Australia)

Yet companies always have activities that lend themselves neither to planning nor regulation. This awareness was certainly evident in some companies: 'CBT requires a consistent approach not always possible in workplace situations' (large mining company, Northern Territory). However, it would appear that Australian enterprises are using CBT largely for purposes of 'goal-based learning' (Field 1996) where organisational goals are agreed on and plans made for how they are to be applied. Many enterprises also seem committed to continuous training and lifelong learning and link training with organisational innovation and quality developments thus:

> *You can make robots of people with CBT. (I) am looking to put brain food in there so that people can manage their work more effectively. Brain food might include team work, conflict resolution skills and so on ...This company is moving towards a philosophy of Human Resource Development, that is, the overall training and development is tied into the strategic development of the company.*
>
> (Large Light Manufacturing Company, Victoria)

More obviously, companies valued training and assessment processes that seek to be nationally consistent, clarify goals and processes, and deliver a clear work-related result: 'It's a question of can you do it or can't you?'.

> *(CBT) ensure(s) people are competent at completion—a clear understanding of purpose of training and able to be assessed accurately. (It is) related to specific requirements rather than an overall qualification.*
>
> (Large Services Company, South Australia)

> *It takes the guesswork out of training, provides guidance and clear rules, and gives organisations confidence knowing (that) what we are providing is training to a tested standard.*
>
> (Large Construction Company, Victoria)

Yet 'taking the guesswork out of training', where outcomes are predetermined, may not sit comfortably with developing the capacity of workers to construct knowledge for themselves.

Workplace and industry accountability: '(CBT ensures) a greater accountability of individuals to perform, as skills have been assessed and therefore management can expect that level of skill'

As the following comments indicate, CBT was thought to provide greater standardisation of skill levels across industry generally. Thus, competency training:

> *Standardises a level of competence across the board. Provides consistency for an industry; portability across companies and industries. Consistent expectations.*

> *(Provides the) opportunity to recruit a skilled labour force where skills of applicants are known and documented.*
>
> *Provides better flexibility for industry; takes note of a whole industry situation, including issues such as workplace health and safety, and legislation changes.*
>
> *Gives far more direction to training; set(s) a benchmark—wouldn't have had training if (CBT) hadn't happened; would be in trouble as an industry if this training hadn't been made available.*
>
> *(Is) easier to link to on-the-job performance; easier for a supervisor or manager to check off competencies. Simplifies things.*

Such statements were made in all industry sectors. In the view of one training manager, 'competencies are far more prescriptive than the old system of training, which gave a free ride'. This has resulted in training becoming easier to manage and assess. Competencies have a clear regulatory role: 'The company knows that it has to meet a variety of standards and training is a significant enabler in this area'. Competencies function as benchmarks that provide an 'objective' measure of skill: '(CBT) is an objective standard and no subjectivity gets into it'. In providing an 'objective' standard, CBT was perceived to be 'fairer than the previous system which was: "You can be promoted when your manager says so"'. As a training manager in an international hotel reported: 'CBT achieves the desired outcomes in the workplace because you have very structured processes and monitoring occurring'. Yet CBT 'takes time to police (and) make sure people are conforming'.

Thus, competency standards function as a technology of accountability so that workforce skills can be calculated and planned: '(CBT ensures) a greater accountability of individuals to perform, as skills have been assessed and therefore management can expect that level of skill'. CBT provides the possibility of a greater accountability of prospective employees to employers when applying for positions: 'Under the old system, the interviewer couldn't tell whether someone was any good unless you put them on the job and tried them out. Now a skills register is used by the company and if a person is listed on that register the interviewer is confident that the interviewee has those skills'. CBT also provides the possibility of greater surveillance of the workforce, through its administrative infrastructure: '(CBT) provides a means to report back to management and clients about safety, OH&S, meeting quality issues and client needs'.

Some training managers would like to see even greater standardisation. An electrical contractor commented: 'Different assessors may interpret the standards differently—the standards are only as good as the exams, curriculum … that are set. The national committee needs to set standards and curriculum to be more standardised throughout Australia'. He continued: 'CBT really is the only way to do it … national standards to know what level everyone is at … everyone in Australia is doing the same thing'. Yet, such levels of prescription were not seen as desirable by everyone, for example, a training manager in a sawmilling company explained that: 'The material is not locked in. Changes can be made to suit our needs. The whole concept is excellent'.

Who benefits? Large / small, urban / regional and intersectoral differences

There was little evidence to suggest that competency courses are too generic to assist individual *small businesses*. In the words of one small business owner / operator, with CBT 'what you need is what you get'. CBT was widely perceived to be related to specific requirements and provide a mechanism for on-the-job training. 'Staff gain experience while they are learning'. It 'enables small businesses to work with large companies and get recognition for their training'. 'Being close to other enterprises who are using CBT and being involved in their practices' was also considered useful and 'contact(s) with TAFE and ITABs have made it an easy process to achieve'. Particularly valued were opportunities 'to understand and interpret good advice', 'look more laterally' at the business, 'keep up-to-date', 'upgrade knowledge', 'give workers in small businesses recognition for skills that they would never have got before', and to use CBT for licensing purposes, for example, tapping into the national system for legislative requirements. 'These days, the small folk are being pushed aside in competition, so the better trained we all are the better we stand'.

Thus, an interviewee from a Tasmanian resort commented of CBT that it was a:

> *... learning tool for management of small business. It's excellent, user-friendly and adaptable for people with little training experience. Qualification is equal to other qualification, national standards, know what people achieve.*

Yet the success of CBT in small enterprises can depend upon the following factors:

- availability of dedicated training personnel, for example, in a small company, the manager(s) 'wears many hats' (human resources, training, operations, growth management) which 'makes it difficult to implement training'. 'It is especially difficult for small businesses that do not have a formal assessor on-site, to perform assessment' and a small business may lack 'in-house skills to conduct training'
- cost considerations—cost in time, effort and money inhibit the provision of training, potentially creating a 'cultural divide' between large and small business. 'Without $$$ for infrastructure, not-for-profit sector find it more difficult to maintain quality standards' and 'generally small business employers want training of staff at no cost and out of work hours'
- availability of information about competency standards and CBT. 'Too little training in the successful implementation of CBT'

There was also evidence to suggest that small businesses run on informal training if suitable formal, structured training and quality courses were not available—where CBT 'procedures just don't fit the bill'. Assessment may also be conducted informally. Thus, in a retail travel agency in Western Australia, the manager explained: 'We don't formally assess skills in a small organisation. It's done almost intrinsically—our staff are our partners', and the manager of a small car repair company in South Australia reported that in his business:

> *One to one training works superbly—an 'expert' will train an individual in less than half the time of attending a training course. Because in a course the lowest common denominator is catered for, it is a waste of time to a proficient operator. This training is informal.*

In small enterprises, then, competency-training tends to be conditional upon contextual factors and loosely coupled to informal training approaches like 'home-based training'. Thus, a grains farmer from Victoria described competency training in this way:

> *Training on the farm is arranged according to the weather and during the quieter times (I) give the apprentice projects to do in the shed. These projects are based on problems that come up and will be recorded in the apprentice's diary. An example of this would be when the current apprentice learnt about welding on the farm. I show him and then let him have a go on a bit of spare pipe and take it from there.*

The diary provided evidence of the competencies gained.

A Victorian dairy farmer reported that 'farmers do industry-based CBT and children do home-based CBT'.

> *The three children are at different levels of competency. The eldest one is fully competent ... Competency standards are used as guidelines (in the training of farm staff). They are also used to decide pay for (the) children—the more competent the child the more pay they receive.*

Satisfaction with CBT in regional and remote areas appeared to be dependent upon:

- access to TAFE courses and the degree of travel required. 'Some people are travelling up to 300km (round trip) to attend courses, and courses are not always offered at convenient times'. 'We really have to fit in with what's available'. 'Considering / exploring alternative delivery strategies, such as video linkups, telephone conferencing and interactive media, as technology is introduced'
- the capacity to conduct CBT on-the-job. 'Ideally, training should be on the property' and, 'As training can be provided on and off-the-job in a variety of modes, there are a lot of opportunities for training'.
- costs, including those of travel, accommodation and child-care. It is 'difficult and expensive to access training in (a) rural area and small organisation'
- opportunities to involve members of the local community, thus accessing local knowledge. 'City-based assessors don't have the same level of knowledge'

It was noted that: 'Dealing with being distanced from a lot of action' and being 'alone and isolated' is very difficult, particularly for a small enterprise and when employing seasonal staff. One training manager commented: 'In the rural sector, there are not the numbers to run a certificated course … in market-driven training the rural sector can miss out' and apprentices, once trained, often leave to go to the city. Such difficulties may result in training being sidelined. The record of interview from a manager in a large, regional training and employment provider in Victoria reads as follows:

> *(Employers) won't let trainees go (to classes), even though 20 per cent (of their work time) is meant to go towards training. Putting training into the industries has its problems. (The interviewee said he tells employers) with flexible training it's on-the-job, but with that comes responsibility—you're going to have to actually manage the training … They've said yes they'll do that, but it doesn't happen. Trainees teach themselves ... some employers are very committed … others just see it as 'I can put on a trainee and get a subsidy'.*

In making comparisons of satisfaction with CBT across major industry sectors, it appeared that ways in which standards were used were very similar. In services, however, there was greater emphasis on improved customer service, while in other sectors, improvements in safety standards were consistently emphasised. In services and agriculture, forestry and fishing, training managers appeared generally well satisfied with the effectiveness of CBT, given that any 'hitches' would eventually be ironed out. In the services sector, issues of concern revolved around assessment and the administrative, 'bureaucratic nightmare' that the adoption of CBT sometimes induced. In retail and health and community services (where the workforce is predominantly female), a concern was also expressed that values and attitudes may be neglected in a skills-based program such as CBT. In agriculture, forestry and fishing, on the other hand, regional concerns predominated.

However, in the construction industry, a number of building contractors were very negative about CBT, with concerns centring on national standards being too broad, the unreliability of assessment and links between competencies and pay. Concerns over industrial relations issues were also very prominent in manufacturing companies and training managers from the printing industry expressed anxieties about diminishing standards under a competency-based system.

There was also some evidence that *small industries*, for example, jewellery-making, locksmithing, were not well-served by CBT. One training manager from Western Australia reported that ANTA was reluctant to 'get packages together'. He recommended that skills 'should be recorded for posterity, on video as well as paper, so that these skills don't get diluted. These would be upgraded by the principles of the day. At the moment, teachers interpret the outcomes and continue to teach as they used to'.

Some training managers reported that whether an industry or particular enterprise has an established *culture of training* can influence the way in which CBT is interpreted—and thus the effectiveness of its contribution. Workers may resist CBT because it appears alien to established practice, for example, in the manufacturing sector, some tradespeople may be accustomed and committed to 'time-served', apprenticeship training. In health and community services, on the other hand, knowledge-based, professionally-oriented courses may have been the norm: 'People don't know it because it is not part of the culture ... the issue of assessment terrified some people'.

Some enterprises may have had no culture of training at all. In the dairy industry, the tradition of educational involvement was seen to have encouraged the development and promotion of CBT, while in the steel industry, 'the workforce has slowly begun to understand the value of CBT and support it'. In the beginning, it was 'who's this shiny arse coming down to see if I can do my job?' Similarly, a manufacturer of agricultural implements reported that CBT was first perceived as a 'money grabbing exercise but now workers are seeing the opportunities for themselves'.

A number of training managers reported that CBT has helped to produce a better workplace culture, for example, in the creation of flexible work teams. In fire protection, from no training culture at all, they have developed a strong culture with 'skilled staff empowered' to conduct training. Other enterprises (particularly in building and construction) reported no such positive changes.

Some unresolved issues and themes

Evidence indicated that a number of issues in relation to CBT remain unresolved and require further attention. Many of these issues involve *procedural and administrative matters* like the costs of setting up and maintaining competency systems, as well as in tailoring CBT to the requirements of individual enterprises.

Training managers volunteered the following comments:

> *CBT approaches require a high level of administrative effort. Administration load is heavier, for example, assessing paperwork. Lots of work to implement.*
>
> *Keeping track of each small outcome and keeping track of the standard which a person is at. (When) working in the field, (it is) difficult to record. Time, time, time. Need an administrative assistant to enter the information.*
>
> *Need assistance from government to implement (CBT), both in (the) form of advice and training assistance—it is a very expensive procedure.*
>
> *Problems getting accreditation for the specific jobs we want training for.*
>
> *The system is easy to administer for trainers rather than suiting industry.*
>
> *Staying up-to-date with change is difficult—the rules keep changing.*

While the competency assessment system was generally regarded as 'fair' (read less subject to interpretation), once 'teething problems' with the system were addressed (and, at least, there was 'no anxiety about major exams'), *concerns about assessment* were widely shared across enterprises. Some of these are outlined below:

- *Grading* 'Employer cannot determine whether trainee is doing well. Only indication of what level the trainee is at (is) length of time taken to achieve'. 'Can't tell one guy from another ... just pass or fail'. 'No stars and heroes'. 'Stifle(s) those who want to perform'. 'Don't know where they (prospective employees) are at'. 'No differentiation between people. (Assessment—no grading)'. 'Producing a nation of mediocrity'. 'Supervisors becoming competitive and wanting a grade'.
- *Assessing attitudes* 'CBT assesses competency, but not attitude. However, attitude is 50 per cent of the job'. 'The soft skills and attitudinal requirements of the hospitality industry are hard to measure'. 'Assessment of management training done on the job over a period of time is difficult to assess during ... or at the end of a course. Lot of attitudinal and cultural changes required to match effective performance'. 'Consistency of assessment particularly for non-technical soft skills'.
- *Maintaining competency* 'Level of competency of trainee, how to monitor and when to reassess in the future. This is especially important for safety issues. For example, someone may pass a crane operator course. If those skills are not used in the current job, the next job could pose dangers'. It was suggested that there should be an obligation on employers to provide refresher courses. Similarly, 'Workers get a certificate of competence after a two-day course for forklifts, during which participants actually spend 20 minutes on a forklift. In other areas too, it was noted that there is a 'risk that people will be pushed through too quickly'.
- *Reliability* 'The workplace assessors have a lot of anecdotal evidence where employers have ticked off skills when the trainee is not competent and sometimes the training has not been undertaken'. 'It comes down to how

reliable the assessors are'. 'Different assessors assess differently according to their own standards'. 'Difficulties of trainers being effective assessors'. 'Confusion of formative and summative assessment and therefore the use of different standards'. 'It can quickly become bastardised. Once this occurs it will impinge on quality. This is already happening in some group enterprise training'. 'Lots of assessors don't have the intestinal fortitude to fail people'. 'Lack of objectivity in application of assessment'. 'Organising a fair approach is a logistics nightmare'.

- *Practicalities of assessment* 'Assessing frost control in a plant nursery can't be competency-based. It depends on a morning when you can get a frost'. 'There is a problem with assessment as conducted by TAFE because there are some aspects of them (competencies) that you can't assess out of the workplace'. 'Issues of appeal, resit, privacy of results. Confidentiality when assessors move between companies'.
- *Bureaucratic processes* 'It can become a bit pedantic', especially in the assessment phase … the key was 'not to analyse it to the nth degree'. 'Too much assessment'.

In some enterprises, it appeared that assessment brings the fear of redundancy. One training manager suggested that CBT can be seen as a useful way for companies to train / upskill people for eventual downsizing—i.e. to get them ready for work in another company. It also appears that the *link between competency assessment and pay* is a 'live' one, indeed, 'hell on wheels' for a number of companies, as seen in the following interview reports:

> *Now everyone is able to achieve to (a) high level, there is an expectation that they can continue to move up, but (there are) only two supervisor positions to thirty staff who want to apply.*
>
> (Medium-Size Services Organisation, Queensland)

> *CBT is very tedious and complicated. (We) have had problems with it on the shop floor (where) false connections (have been made) between competency and pay. Because people are competent to do something (they) have to be paid. For example, someone who is competent in FIC (Food Industry Certificate) if they get to level three, they get the same pay as someone with a Trade Certificate. This is rubbish. At the end of the Certificate their contribution to the company is not the same as a trade.*
>
> (Large Food Manufacturing Company, Tasmania)

> *CBT should complement some time-served training. There is a problem at the moment with TAFEs wanting their money quickly and so certifying trainees after 12 months. This means that they have to be paid full adult wages, even though they have two years to go and still work like trainees.*
>
> (Large Construction Company, Victoria)

> *As gaining competencies is tied up with pay, it (CBT) became contentious. Front line managers wouldn't differentiate between training and performance … The assessment system in operation allowed managers to initiate all assessment and training and some people quickly completed training and got the accompanying pay increases while others were not trained at all.*
>
> (Large Manufacturing Company, Victoria)

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> *The nature of portable training is often perceived as directly opposite of the nature of training to meet business needs. This has caused industrial disharmony with unions wanting workers to gain portable skills and management wanting workers to gain work-site specific skills.*
>
> (Large Maufacturing Company, Victoria)

> *Presently competency standards are too loose, not measurable enough and it is too easy to pass someone and get rid of them. Now workers are no longer keen to be assessed, they are scared of it, suspicious of it and openly aggressive. Whenever assessment is suggested the workforce believe that redundancy is the real reason for the assessment. As a result, workers are not game to say what they can't do, or are having trouble with.*
>
> (Large Construction Company, Victoria)

> *We don't link competencies to pay—consider that a 'dash for cash' mentality.*
>
> (Large Metals Company, Western Australia)

> *I think it's a mistake to link CBT to pay. There is pressure for the workers to do training for the wrong reasons—not for personal development, or for productivity, just for the next pay rise. Now that the link is there, it's just about impossible to sever it.*
>
> (Large Earth Moving Company, Western Australia)

Not all training managers agreed with the above (CBT is 'an aid to avoid industrial disputes') and it appeared that many factors (including management–union / employee relations) were involved in determining whether links between pay and training would be successfully realised. Some training managers reported finding that rewarding people for the competencies gained was productive, while others found it led to wrangling over, for example, whether one should be paid for the job one does or for the job one is deemed competent to do.

In relation to off-the-job training (expressed particularly strongly in manufacturing companies), training managers commented to the effect that:

- Institutional time frames do not fit the requirements of the workplace and time release for training is difficult, particularly when the enterprise is small and / or seasonally very busy, for example, spring planting in a nursery.
- TAFE is often inflexible where 'competencies do not match their modules' i.e. they 'talk you into something that they can deliver' rather than listen to the needs of industry'.
- 'It might push people through, but it's not really competence. Can pass but cannot apply knowledge in workplace' because of lack of experience. 'CBT competencies still tend to be training competencies not workplace competencies'. '(CBT) often lacks contextual elements—too distant from work environment'. 'Competencies must be linked to what workers actually do or else they see it as an academic exercise'. 'CBT can reduce the experience element (so that) qualifications cannot be taken at face value'. 'Trainees often lack industry knowledge—important to have "before" training'.
- The quality of the courses is 'below par' because of 'TAFE cutting corners to extremes'. There is lack of access to resources and inclusion of out-dated information. TAFE is 'holding (CBT) up' by exerting so much power and 'breeding mediocrity'.
- Too little time is allowed for some content (this has been recently cut back) so the quality of training drops.

- 'CBT courses (in TAFE) need to be designed to suit each individual so that they don't get bored or disillusioned'.

Yet, in spite of these comments, some training managers recognised that learning both on and off-the-job could be advantageous. Certain TAFE providers were mentioned warmly for their capacity to adapt to industry requirements and work with employers in designing appropriate training. This was particularly so in the Agriculture, Forestry and Fishing industry sector. One farm manager commented of his apprentice: 'I send him off to TAFE to learn skills that I can't provide him with at the farm', and another pointed out that she 'wants (the trainee) to learn the most effective way, the best practice'. On the farm, however, 'we are not concerned that they are doing it the best way … but rather that they safely do jobs'. Other farmers commented: 'By learning skills at TAFE and not at a relation's place, the trainee will avoid learning bad habits, especially in the area of health and safety'.

The importance of underpinning knowledge and the opportunity to exchange ideas with others and develop self-confidence through off-the-job training was also recognised. 'Cognitive process is at (TAFE) and assessment is on-the-job. We want them brought together'. 'The industry has moved from training provided by the practitioners for the practitioners (workshops) to a higher education-based course, to a system which links enterprise training with academic achievement … the creation of this course (Graduate Certificate in Applied Science [Agricultural Extension]) demonstrated a little bit of professionalism creeping in'. In a cultural heritage site in Tasmania the training manager commented:

> *I realised that there was no point wasting time to train an assistant in the office environment when she could be trained in a more concentrated environment which provided her with networking and an opportunity to establish dialogue, self-image, credibility, increase her confidence and career opportunities.*

A training manager from a Queensland plant nursery reported that sending people off to accredited courses was the best way for them to train. Indeed, one manufacturer expressed concern that with the 'demise of TAFE' and the rise of private providers, 'the quality of tradespeople might well diminish'.

3.4 Contribution of CBT: Education and training

In examining the contribution of CBT to education and training, issues surrounding the interrelated areas of knowledge-making and the development of expertise, curriculum, pedagogy and the formation of worker / learner identities through CBT are discussed.

Knowledge-making and the development of expertise: 'Increases skill levels and leads to better problem solving'

The evidence was convincing that CBT has contributed, across all industry sectors, to the development of so-called procedural knowledge, i.e. in developing specific skills for specific jobs and routine problem-solving capacities. It has also contributed to much cross-skilling and multi-skilling. Yet, a considerable gap appears to exist between this particular contribution and what may be desirable, at least in some enterprises. This gap appeared to be recognised by a number of training managers, as evidenced by the expression of two main concerns, namely the lack of acknowledgement in CBT of the importance of experience and tacit and conceptual knowledge; and the lack of understanding in CBT of the situated nature of skills.

CBT appears to undervalue tacit knowledge and experiential learning. Thus:

> *A lot of knowledge (for example, workers' use of initiative and problem-solving skills) isn't competency-based, and so you can't assess on a competency level … Sometimes it's not what they know. You want them to be able to sort out the situation for themselves and this can't be assessed through CBT.*
>
> (Dairy Farmer)

> *CBT supplements home-based training but is not a substitute (for it). … CBT does not provide trainees with the confidence of those who learn via home-based training … a family member often knows how it (farm machinery) works before they are old enough to drive it and so finds developing the machinery skills not overpowering, not near as frightening.*
>
> (Grains Farmer)

It may be that the accent on 'supplementary' training (here, home-based training) as a support for CBT emerges particularly in small enterprises where informal training is valued and acknowledged, 'from when they can reach the foot pedals of the vehicle'.

Similarly, an interviewee from a small architectural firm in Tasmania reported, CBT is 'a much more applied type of learning'. Applied learning, however, relies upon the learner bringing a body of knowledge and skill to the learning situation in order that learning can be maximised. 'The effectiveness (of CBT) depends on the extent to which students have a range of experiences in the industry'. Other training managers express unease with the lack of tests for retention of knowledge over time and the absence of follow-up for courses—with experience in the workplace to reinforce knowledge that is gained off-the-job. 'Concentrates on outcomes not on process. Means that unless you consolidate with immediate practice it gets lost'.

The lack of theoretical underpinning for much on-the-job learning was also noted across a number of industries, together with an appreciation of the work of TAFE and the potential contribution of university courses. 'Would like to see some of the old system back—check on knowledge ... holistic assessment'. 'Main issue is the tendency for CBT to 'be only skill based with no emphasis on the underlying theory'. 'Would like to see more theory-based training come out of the universities into industry, like economics and accounting'. 'CBT is only a useful scheme for training, not education. Even as a training scheme, it is poor'.

The importance of acquiring procedural knowledge, however, was also recognised: 'When I came out with a tertiary qualification I thought I was it and a bit: it only takes a week to work out that you know nothing. CBT doesn't leave people at the end of the course knowing nothing'. Thus the importance of the holistic development of many forms of knowledge (procedural, conceptual, tacit and experiential), and strengthening the links between them, becomes evident.

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CBT appears to assume that most skills are transferable—even without specific attention being devoted to such transfer. This assumption was questioned by a number of training managers. There is little doubt that routine problem-solving involving near transfer is developed by CBT. However, issues concerning far transfer (across industry sectors and domains of knowledge and skill) have received relatively little attention. A retailer commented, 'Workers receive a tool kit they can use in another industry—but a limited tool kit' and, in the airline industry, '... if you take riveting, skills for aerospace are much more highly developed', necessitating the development of specific standards for specific purposes.

In a fish processing company, a training manager pondered on the idea of skills portability between different communities of practice thus: 'How do you establish benchmarks? How transferable are they?—people do things in different ways (for example, one person can head, fillet and skin a fish, while in another company three people are used'). A textile manufacturer suggested that CBT needs to be generic with some 'industry and enterprise-specific subjects' to overcome difficulties of transfer, and similarly, in timber-milling, it was suggested that the 'challenge is to have broad generic statements with enterprise-specific overlays'. In Community Services, however, at least one training manager considered that CBT was providing the industry with transferable skills—across different roles in different occupations.

Curriculum: 'Has removed subjectiveness: it is the competency that counts'

A competency-based curriculum is one that is outcomes-based and governed by assessment. As such, how might CBT be seen to have contributed to vocational education and training? Most training managers agreed that this form of curriculum provided:

- Structure for inexperienced trainers and trainees
  Good for presenters / lecturers who are not very experienced. Very specific / detailed. User-friendly. Clearly stated objectives. Selection of appropriate training is easier; puts everything into a structure; forms the basis for improving and measuring performance. Trainers ... have a good idea of what to teach; performance criteria to train to. CBT has eased the load because there are standardised packages. Provides for a higher level of trainer confidence. Provides trainees with a clear direction; everything is listed.
- Objective assessment
  People are informed in advance as to what they will be assessed on. (CBT has) led to the removal of bias and favouritism in assessment. (Sets) an objective standard and no subjectivity gets into it; objective, consistent, measurable.

However, not all training managers agreed that such structure and 'objectivity' were helpful. As noted previously (on p.30), important attitudes, understandings and skills may be omitted from the curriculum—particularly if difficult to measure. For example, in the logging industry, a training manager commented: 'CBT training focuses on machines and production to the detriment of a more comprehensive environmental care training', and a training manager in local government noted: 'There is a danger that CBT will throw out the values underpinning training: The humanist approach versus CBT. The humanistic approach explores the issues more. With CBT this often seems to be lacking'.

Thus, a more holistic, process-oriented curriculum was seen to be valuable for these areas. In addition, where beliefs needed to be challenged and changed by training, 'there is only short contact' and little 'support for people working through these changes'. Training managers in some manufacturing companies expressed concern that leadership training, personal development and the 'soft', people skills were considered unimportant compared with technical proficiency. A construction company training manager also thought that CBT 'complicates assessment. Not user-friendly from the trainer's point of view and not clearly understood by employers and trainees'. Indeed, the numerous concerns with assessment have already been discussed (see pp.42–43).

Pedagogy: 'Standardises classes and instructors (to) all (the) same standard and same approach used. Good for customers'

While standardisation (so that enterprises know what they are purchasing from providers) was a theme in much of the interview data, CBT has not been associated with particular forms of pedagogy except, perhaps, self-paced learning. With competencies and standards being listed exhaustively, until the advent of training packages, it seemed that learning processes themselves were assumed to be unproblematic. Thus relatively few comments from training managers explicitly addressed learning and teaching. Positive appraisals of CBT in relation to pedagogy included: '(CBT) requires people to be active learners. Strategies built into the teaching / learning program'. 'Trainee gains flexible approach to training and can do things in their own time'. 'Trainees learn at their own pace; employees work at their own pace'.

Such standardisation was occasionally seen as restrictive. 'CBT can limit the direction of the training … It doesn't allow for other avenues'. It was also thought by some to be 'More appropriate to adult learners who (can) self-direct their learning, than to school leavers, who require more specific direction and mentoring'. It was also seen as not good for those who are 'not well motivated'. Indeed, CBT was thought by a number of training managers to be successful only if it could rely on excellent training i.e. '… the implementation is critical. Needs high quality instruction' or '… a very knowledgeable person' who goes beyond the competencies specified. 'Making it all real and approachable, without getting in the way of the real stuff' seemed to be the key to good training. On a number of occasions, 'experts in the field', who engaged in coaching, were mentioned as vital to CBT's success. 'When a supervisor is enthusiastic, this can make all the difference'. 'Obligation to actual practice, not just learn(ing) from observation' was also regarded as crucial.

There was some evidence in the interview data on the design of training environments in which workers were helped to construct knowledge themselves (and thus engage in reshaping or redesigning work and other innovative activity). As a training provider noted: 'When standards are used as a bureaucratic instrument, they're a waste of time but when they're used to create a dialogue they're fantastic'. Thus, one company which provides training to the community services industry 'creates a dialogue to improve (competency) standards' and another, which services the needs of nurses in rural areas, constructs CBT as an 'excellent way for staff to reflect upon their practice'. Mention of the capacity of CBT to foster reflection upon practice indicated that workplace competence was defined in ways that tend to go unrecognised in 'official' accounts. Again in nursing: CBT was said to 'support(s) a holistic approach to training', since competence in this field was '25 per cent skill and 75 per cent the way you were spoken to'. CBT organised in this way 'is beneficial because it looks at the whole person and not just the task'. For example: 'You don't just take a pulse. There is more to it than that'. Thus here, CBT seemed to have become a platform for a quite different model of training.

Clearly, competency courses can be designed along constructivist lines and encourage reflection and problem-solving through a workplace scenario approach. The training manager in a small architectural firm in Tasmania commented:

> *CBT provides people who are in an applied situation the opportunity to step back and reflect on what options are open to them in terms of their practice, their career moves and where they fit within the industry … The training is case-study based and covers a range of typical situations when working in the field, ranging from quick conservation assessment and applying rational criteria rigorously. Students are going through the motions of the kinds of things that they would be doing on the job … Input is encouraged, especially of expert knowledge and skills which many of them do. Part of the course (Conservation of Cultural Heritage Sites) is team building and conceiving and understanding from conception to implementation.*

Indeed, CBT can be coupled to, or supplemented by, other training approaches (for example, time-served training, action learning, 'home-based training') and thus take in elements of contingency skill-based training and organisation-wide learning. It can also be implemented in ways that foster critical questioning by, for example, offering workers a 'discussion point for what the standards are and mean for … practice' (small training provider, South Australia). It thus appears that the success of CBT in many areas relies upon the expertise of practitioners, who can exercise professional judgement in reinterpreting and supplementing the standard training program in the interests of all concerned (see also p.32 on 'informal standards').

Worker / learner identities: 'We know our workers and they know themselves'

To the extent that positive learning identities are an important outcome of education and training processes, worker / learner identities are examined in considering the contribution of competency training. However, it is difficult to determine the extent to which reported effects result from the introduction of training per se, the excellence of practitioners, or CBT in particular. CBT may be, in many companies, the first and only form of training to be offered to workers. Nevertheless, the following results of training for workers were indicated by training managers:

- *Improved morale associated with increased skills recognition* 'Encouraging and good for morale as they can see what they are achieving; recognition of their work and experience'. 'People are much more aware of what they can do and what they need to work on'. '(National standards) build professional esteem of workers. (They) develop a sense of belonging to a national system'. 'Employees feel (they) have (a) competitive edge; won't be behind the times'. 'Getting their skills recognised on the job is what really counts'. 'With certificates, workers have market options'.

- *Workplace-relevant training* 'CBT is a really active, hands-on thing—people love that'. 'I like to reward people for their work and CBT does this—people like to have a record of the things they can do at work'. 'Relevant to work so not wasted training'. 'When it works you gain people who are enthusiastic about their work, understand its value and their contribution'.' Company seen as investing $$$ in the workforce, which results in company loyalty and increased job security'. 'Higher self-esteem'. 'More adaptable to change'. 'Greater job-satisfaction and pride'. 'People feel happy to be learning and progressing—it forms a pathway'. 'Pathway for keen people'. 'Keeps workers on the track and happy that they are seen as developing: a happy worker means a happy workplace—CBT helps us work towards getting this balance'.
- *A sense of empowerment* 'Allows for people to be responsible for (their) own learning'. 'The workers get paid directly for their level of competency, so they're more willing to say where they need help'. 'People feel more empowered as they value the skills and knowledge obtained'. 'Staff use it as a tool to manage upwards, telling supervisors that they need certain skills, and hence training'. '(Workers become more) confident / positive and often demand more training, want to learn and leads to ownership of their work'.
- *Team identities* 'Enjoy learning together'. 'Developing team-work'. 'Forges links between workers by involving people at all levels'.

Only very few negative influences on workers' identities were reported by training managers, for example: 'Employees can be overwhelmed by size of the task—number of competencies needed to be achieved'. In relation to off-the-job training, one training manager protested at workers developing identities as 'learners' to the exclusion of being 'producers':

> *Trainee / apprentices often were indoctrinated at TAFE into thinking they were learners and not producers. After seven weeks away (on block release) they came back with (the) wrong attitude.*
>
> (Light Manufacturing Firm, Queensland)

The importance of integrating an identity as both a producer and a learner was recognised. Yet there is little evidence of workers developing a sense of themselves as non-routine problem-solvers or innovators and of thus contributing to the shaping of their work environment and knowledge of work processes.

4 The case studies

The aim of the case studies component of the evaluation was to provide a detailed understanding of CBT from a critical and socio-cultural perspective, toward establishing its broader social, cultural and educational outcomes and contribution to Australian VET.

The questions guiding the design of the protocols used to collect information for the case studies were:

- In what situations, and for which stakeholders, have the benefits of CBT been shown to be greatest? Does CBT lend itself to the purposes of some 'client' groups (industry, enterprises, individuals) and not others? (*critical perspective*)
- What social and cultural practices of education and training are being re / produced through the change to competency-based training? More specifically, what contribution has CBT made to cultures of learning and training in different industries and enterprises, including membership in communities of practice which some commentators (Billett 1996a; Brown 1997) suggest is central to the construction of vocational knowledge and the development of vocational expertise? (*socio-cultural perspective*)

The case studies examined the following issues in particular:

- understandings of competency held by stakeholders in selected individual enterprises
- the development and implementation of selected national competency-based vocational education and training programs in these enterprises
- the role and use of competency standards in these programs
- model(s) of vocational education and training reflected in these programs
- the degree to which CBT is meeting the requirements of:
  - industry
  - individual enterprises
  - employers / supervisors
  - instructors and trainees
  - different industrial settings
- the equitable distribution of benefits from CBT among stakeholders
- the contribution that CBT has made to outcomes in VET, most particularly:
  - workforce knowledge and skill
  - skills and knowledge that 'transfer'
  - the development of vocational expertise
  - individual learning and development
  - workplace learning and innovation

4.1 Methodology

Eight intensive case studies of CBT in enterprises were made. These studies focussed particularly on the development and implementation of selected national competency-based vocational education and training programs. The selection of case study enterprises and of competency training programs within these enterprises was a critical step in ensuring the quality of the data. The eight case study enterprises were selected using the following criteria:

- industry sector. Case data were collected from a matched subsection of companies from the population sampled in the national survey: Manufacturing (2), Services (2), Construction (2), Agriculture, Forestry and Fishing (2)
- size of enterprise. Enterprises range by number of employees from small (1–19), to medium (20–99), to large (over 99) companies. Four case study enterprises are small (one enterprise having five employees only), one is medium, and three are large
- geographic diversity. The case study sites are located in each of the eight States and Territories of Australia. Half of the enterprises are in metropolitan centres and half in regional centres (including one enterprise in a remote region of the Northern Territory)
- familiarity with CBT and provision of nationally recognised training programs. All case study enterprises are familiar with the VET system and have been using CBT for some years

The eight national competency-based vocational education and training programs were selected using the following criterion:

- program diversity. The cases cover a broad range of training programs from entry-level training through to management training and include: pre-vocational training, traineeship training, operator training and front-line management training

Details of the case study enterprises and case study training programs are given in Appendix 2. The eight case reports are included as Appendix 3. Considerable difficulty was encountered in accessing a suitable case study enterprise, and organising observation of a training program in this enterprise, in one State. However, these difficulties were overcome and the representativeness of the sample of cases within industry sectors and with regard to the other selection criteria fully achieved.

Case-study methods

- Participant observation of training programs. Data gathering involved observation of the delivery of a module or part of a training package over a number of sessions toward establishing the broader social, cultural and educational outcomes of CBT and its contribution to Australian VET. An observation schedule (see Appendix 5) was developed focusing on: instructors' practices in delivering training programs and, particularly, the influence of standards upon those practices; training program development; responses of trainees to the training program; outcomes of the training program; and various other issues identified in 4 on page 51.
- In-depth, semi-structured interviews. Forty-nine in-depth, semi-structured interviews were conducted with various individuals with a 'stake' in training, that is, company manager, training manager, supervisor, instructor / trainer, trainees (see Appendix 6). Each of the individual researchers or pairs of

researchers in some States (i.e. Victoria, South Australia) conducted a minimum of six interviews with these stakeholders which focussed, most particularly, on: program development and implementation practices; who undertakes developmental work and how; the use of national modules and / or training packages; the extent to which national training standards are being taken up and used and the 'play' or variability perceived to exist within them; and the relationship between competency standards, learning and other program outcomes. Interview protocols were developed for each of the stakeholders mentioned above.

4.2 The character of competency training

What counts as competency?

The cases revealed somewhat more variety in relation to how competency is conceived in enterprises than the national survey provided. A more complex picture of competency emerges when comparing the data collected from the telephone interviews with the data gathered from the case study enterprises. Inasmuch as the case material involved eliciting a wide range of views on competency—not only from training managers but also trainees, instructors, supervisors and company directors—this greater complexity could be anticipated.

Two broad understandings of (occupational) competency were identified from the case data, a 'content' understanding which emphasised tasks required by the job and a 'process' understanding which emphasised the contexts in which the job was done. In the majority of case studies, a content understanding of competency prevailed. Competency was commonly understood in terms of *what* was required in the workplace rather than *why* these requirements should be met.

a. Competency as content: 'They can do all the tasks that are on their job sheets'

Most definitions of competence given in the case data conformed to the concept of competency provided in VET policy documents:[1]

> *My understanding of competency is couched in terms of the Australian standards framework. It's the ability to perform a task in a workplace without supervision and to the standards of the enterprise .*
>
> (Trainer, Plantco)

> *I'd describe it as you can either do the job or you can't do the job ... so you are either competent or you're not competent.*
>
> (Human Resources [HR] Co-ordinator, Timberco)

They also matched the definitions provided in the telephone interviews, which revealed that competency is commonly conceived as a matter of performance on task functions of the job (the so-called behaviourist construction of competency).

Competence was commonly conceived as something a person is or should be able to do: 'Competence means a person is able to do the job that is described'. According to this conception, workers are neither encouraged nor expected to try to change and improve work tasks:

> *To be competent means that they can do all the tasks that are on their job sheets without the need of constant supervision and correction.*
>
> (Company Manager, Plantco)

> *(Being competent means) being able to do the job properly, safely and productively. So we are getting our production, they are doing the job safely, and properly, the way it should be done.*
>
> (Trainer, Timberco)

> *A competency is a task that you have to do to a standard. I demonstrate exactly what is a competency and then show them exactly what it is that they have to achieve to be competent.*
>
> (On-the-job Trainer, Community)

The skills of workers were commonly thought of as a collection of tasks that they accomplished. The benefits sought by the case study companies where competency was conceived in this way had to do with securing certain, specified skills thereby obtaining particular, reliable results:

> *The training is designed to produce conformity ... The reasons are frequently to do with safety because it is a dangerous environment.*
>
> (Training Co-ordinator, Timberco)

b. Competency as process: 'I want people at the end of it to come out being proactive'

Some definitions of competency given in the case data involved a process view of competency where competency was taken to be 'competence-in-use' (Ellstrom 1997). On this view, competency is not something fixed and contained (for example, a matter of tasks on job sheets). Rather, it is fluid—'a dynamic factor mediating between the potential capacity of the individual and the requirements of the job' (ibid pp.268–9).

The focus is on *interaction* between individual and individual, and the individual and the job, often using competency as a resource. It might be noted here that the quotations evidencing this process view are somewhat longer than in the previous section. In other words, process of any kind is necessarily indeterminate and ill-defined.

> *I'm swapping around between knowledge and awareness, but I think a competent person is both knowledgeable and skilled in the task that he or she does, but also is aware of the tasks that their colleagues do wherever they are in the company. That makes them competent to relate to decisions, questions, issues that arise, other than other tasks they've done. So I guess that's my answer in a long drawn out way.*
>
> (Managing Director, Carco)

> *Being competent means having the skills we need right here, but it is much more than that. A person could have the skills but not gel at all with the others at work—that's a useless situation, nothing really gets done well at all. If, however, someone can develop skills knowing where they fit in with others, how their skills will contribute to getting a job to completion, and how their skills are valued by other workers, then we will see real progress. To us, that's what being competent is all about: developing skills that are meaningful for everyone on the team.*
>
> (Manager, Bathurst)

> *My definition of competency goes something like the way in which we can effect through the training program a group of individuals who can be proactive within their company and therefore can achieve a better workplace for themselves ... for the benefit of the company and themselves ... I want people at the end of it to come out being proactive ... and that's my definition of competency ... The central thing that concerns me is: Do I include or do I exclude this learning activity? To what extent will it assist these people to be proactive in the company in solving their problems?*
>
> (Trainer, Carco)

In these definitions, the skills of workers are a broad accomplishment, not a collection of prescribed tasks. They comprise knowledge, skill, awareness, attitude and action and relate to other purposes and concerns—'decisions, questions, issues'. They are also the outcome of collective action, including the choices the trainer makes about what to include in the training program. The main benefits sought by the case study companies where competency was conceived in this way had to do with changing the culture of the company and succeeding as a company in the long term.

> *We want the staff to be successful. I mean we've got a vision that when contestability comes we can actually be so skilled up and knowledgeable and so on that we can in fact take on work from surrounding councils and make a profit for the ratepayers of the city of X and reduce the reliance on rates. So we've got a much further vision than just surviving.*
>
> (Acting Chief Executive Officer [CEO], Council)

4.3 'Doing' CBT: Models of vocational education and training

The cases revealed the use of different models of VET. While all case study enterprises were using the VET sector, or, more precisely, using CBT, the multiplicity of meanings attached to competency and the diversity of content carried in competencies, [2] belie the idea that CBT is a singular and universal approach.

The models of training identified from the case material range along a continuum of practice from (i) delivery and assessment of training to industry competency standards to (ii) delivery and assessment of training without taking these standards into account. There were four models of vocational education and training discernible in the case studies, their respective emphases being: (i) training; (ii) instruction; (iii) development; and (iv) education. In principle, these models can be differentiated. In practice, one model can 'shade off' into another (i.e. different models can co-exist). While some models may be deemed more appropriate than others (for example, better able to provide for the requirements of a changing world of work), each has a place in the process of competence development as well as its particular strengths and weaknesses.

Competency-based training: 'The mechanical skills part of it is fairly straightforward'

The majority of case study enterprises were found to be using industry endorsed competency standards and using them in a variety of ways. In some cases, they were used to drive the development and delivery of training; in others, they were used in conjunction with actual work skills and tasks so that the 'paperwork' and practice could be brought together.

> *I have got a book that I have to sign for on-the-job stuff, and I sit down with X, the staff trainer, and Y, the assistant store manager. And, between them two, they know, they go through the book and they ask me questions and I'll answer them and they sign me off if they think I am competent and that.*
>
> (2IC Trainee, Storeco)

> *I've spent some time working with other companies where I haven't even been trained at all. At another place, all they did was tick off boxes in my paperwork.*
>
> (Trainee, Manteena)

> *Before we start any type of CBT we look at the people being trained. We look at the level they are at with their skill and their knowledge, we look at what they already can do at work, and we look at the quality of their work. Another important thing we do is to ask our workers where they want to go, you know to get an idea about what they want from CBT. We know what we want from training at Manteena, but we need to know that the people we're training are getting what they want. It's gotta work for everyone.*
>
> (Manager, Manteena)

CBT emphasises the importance of explicit and consistent criteria as a starting point for program development and delivery (as well as assessment and certification). In principle, the criteria are quite straightforward—they refer to given guidelines and plans. In practice, they were often negotiated—reinterpreted, complemented, modified, changed. These negotiations were, in a fundamental way, internal to the attempt to use competencies, not a challenge to the competency framework itself:

> *What is a required company standard? Put it like this, if I consider that they meet what I think is the required standard, I'll sign them off … There are a lot of things in there (Certificate 3) that are purely mechanical tasks, like umm, I pick that telephone up and dial head office, that makes me competent in that task. Those ones are fairly straightforward, but there are some there that you need to, sort of, little bit, I don't know the correct word, but (go) by judgement … The mechanical skills part of it is fairly straightforward because they can either do it or they can't. But there are other aspects ... particularly with the customer service skills, that obviously would vary a bit. … I think customers, particularly if you are dealing with a problem customer … it's very very difficult to set any sort of a standard there, 'cos they are all slightly different. If you use the same tactic on one, that will set another one alight!*
>
> (Assistant Store Manager, Storeco)

In this case study enterprise, customer service skills involved the assistant store manager in 'subjective' judgement of evidence such that trainees could be 'signed off'. The contingencies of the job situation—'dealing with a problem customer'—necessitated a certain discretionary leeway in relation to competency standards. This leeway included the use of evidence *outside* recognised competency standards—personal standards, professional standards, standards set by years of experience in supermarket retailing stores, came into play.

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In another case study enterprise, this leeway involved changing the contents of national standards to accommodate the culture of the training provider:

> *So, I guess one could say that there's a lot of direction from outside but we also probably set the standards higher than the competencies as they are written because of the very nature of the way we do things.*
>
> (Trainer, Plantco)

It was clear throughout the case data that practitioners understood that standards have limits (i.e. they *require* interpretation and negotiation; they are not self-evident and complete).[3] Thus understood, standards were generally well supported as they 'allow(s) people to have some sort of plan'. Needless to say, standards can refer to given *and* negotiated guidelines and plans. Widely promoted as given, competency standards constitute CBT as more a training model than a development or educational model.

Work instructions: 'Every operator has a work instruction detailing how he goes about his job'

A 'work instructions' model of vocational education and training was used in one case study enterprise, the timber company, Timberco, where quality and safety issues tended to predominate. This model displayed all of the features of CBT and was called competency-based training. It was, however, narrower in content and approach (for example, no generic, behavioural skills were included in the work instructions).[4]

Work instructions are work standards or enterprise-specific standards. They are based on ISO 9000 procedures and not yet aligned with national standards.[5] Training is delivered directly to work instructions, on the job, 'one-to-one, hands on':

> *As a result of the quality objectives that we have got, there are work instructions for operating each and every machine so that every operator has a work instruction detailing how he goes about his job—what the salient points are, the safety features, what he has got to watch out for—that will run to maybe a dozen pages. And he's trained to that and tested with a questionnaire to make sure he understands it.*
>
> (Training Co-ordinator, Timberco)

Trainers 'qualify' operators 'to the work instructions'. 'Essentially, the training is how to operate this particular machine'. Work instructions are both defined and used as given guidelines or plans. Neither trainers, nor trainees, are encouraged to change the contents of the instructions. Changes are made outside training and prior to its provision:

> *Because of the work instruction right, it has set a guideline for me as a trainer right, whereas it says what's written in this is what you'll train them to and that's it ... I can change it (the instruction), yes for sure ... but it has to be changed before I can train them. They have to change the work instruction before I can train them different ... If I am training someone, it has to be to that work instruction there and any changes to be done must be done before I train those people.*
>
> (Trainer / Leading Hand, Timberco)

The 'trick' in training to work instructions is to get their content 'right in the first place':

> *You know that one person's training is going to be exactly the same as the next person's training and all you have to do in that scenario is get it right in the first place.*
>
> (Supervisor, Timberco)

In the work instructional approach to competency training, competency is defined as 'perform(ing) the task that is set'. The emphasis is on instructing (rule following) rather than developing, educating and learning:

> *What I am saying is that they (supervisors) have done the trainer course, they have got all these good ideas about involving people to improve the learning skills but then when it comes to the shop floor you get the guy sitting down, you give him the work instructions, read through this, and in ten minutes time I will give you a test on it.*
>
> (Training Co-ordinator, Timberco)

Further to its proven benefits—'Our lost time injuries have gone right down'—this training approach is considered a marked improvement on approaches existing prior to it, where machine operators developed their competence in the traditional way:

> *You started off doing a very simple job and the only way you learnt, you didn't have any procedures, you basically learnt from someone else ... learn(t) how to take shortcuts. In fact that's (shows part of a thumb) from the shortcuts.*
>
> (Manager, Timberco)

(Human resource) development: 'We value the skills that you can bring to the job'

The theme of training as a self-managed system was conspicuous at Council, the South Australian case-study site. Council could be described as a workplace that has moved towards high-performance work systems such as self-directed work teams and self-managed business units. The kinds of competencies that count at Council are 'project management sort of things, contract management, all the things that we're going to need in terms of becoming more efficient as business units' (HR Manager, Council).

Competency-based training was placed firmly on a strategic level. Training was defined in terms of job specifications *and* person specifications: 'We are moving towards competency-based job and person specifications so once they're established, I think that will lead us directly into competency-based training' (Trainer, Council). As in the models above, competency was defined in relation to the requirements of particular jobs:

> *I would have a look at their job description and hopefully there would be an indicator there of the sorts of competencies required for that particular job. So it's in relation to what they actually perform.*
>
> (HR Manager, Council)

Unlike the models above, it was also defined as an attribute of the individual: 'the skills that you can bring to the job'. These attributes or skills seemed to be conceived as a kind of human capital or human resource that could help the organisation change and compete:

> *So we decided that we needed to have a major cultural change in the organisation to create a new culture, a competitive culture, customer focused culture, and bring up the level of professionalism and so on, in the organisation.*
>
> (Acting CEO, Council)

While the ability to carry out specific tasks was highly valued, most particularly in field or 'outside' staff, it was broader attributes of the individual that were perceived to be the basis of council's future:

> *We are actually inserting some generic competencies in all job descriptions and particularly at senior levels we have a major thrust on leadership competencies and we're in the process of developing all of that. We've got pretty much a draft competency list for that, that fits into our performance management system but the leadership competencies will actually use, will actually test individuals coming into the organisation on those sorts of competencies. Because that's where we see our future—attracting highly qualified professional people with that ability to lead.*
>
> (HR Manager, Council)

Interestingly, CBT was not perceived to necessarily provide these broader attributes. Teams training, which was run by a consultant, was used for purposes of 'cultural development'. It was constructed as complementing the 'skills development' of CBT:

> *(The) move to team development has come parallel with competency-based training and they work very nicely together. ... You don't do one or the other, you need a nice balance of both sorts of things because otherwise you can have all these highly skilled people but they are individuals, they are not operating as an effective team. So I'd say that we're aiming to complement skills development with an actual cultural development and that takes time.*
>
> (ibid.)

National competencies were used but not in a prescriptive way. They were 'matched' with Council's position descriptions and 'tested with individuals' for accuracy and authenticity:

> *There's a pilot program happening at the moment through the local government association. I think it's the training association, LGTA. And what they're doing is they're setting up a data base of competencies that can be extracted and transferred into job descriptions and they're developing it for all of local government ... So what we would be doing and we are doing, we're actually helping to pilot some of those, is to test out, lift out some of those competencies, match them with individual positions and then test them with individuals ... so making sure that we've covered the sorts of things that that position is likely to do.*
>
> (HR Manager, Council)

Altogether, training at Council involved using a wide range of resources—national competencies, in-house competencies, position descriptions, self-directed work teams, business plans—for developmental purposes where development was defined ultimately as business development:

> *We want the staff to be successful. I mean we've got a vision that when contestability comes we can actually be so skilled up and knowledgeable and so on, that we can in fact take on work from surrounding councils and make a profit for the ratepayers of the city ... and reduce the reliance on rates. So we've got a much further vision than just surviving.*
>
> (Acting CEO, Council)

'Developmental training' (ibid) is being used, among other things, to assist the organisation to offer value for money and prove it can compete as a service provider. Adding value to people through this type of training is a kind of insurance that some local government organisations perceive they must take out in order to do better than 'just survive'.

Work(er) education: 'I want people at the end of it to come out being proactive'

The design and development of training at one case-study enterprise[6] was informed by a definition of competency quite unlike the 'standard' definition:

> *I would say we do (competency-based training), only if you can accept my definition of competency. My definition of competency goes something like the way in which we can effect, through the training program, a group of individuals who can be proactive within their company and therefore can achieve a better workplace for themselves ... for the benefit of the company and themselves ... I want people at the end of it to come out being proactive ... and that's my definition of competency.*
>
> (Trainer, Carco)

Unlike CBT, where the starting points for program development tend to be competencies and the 'clients' of competency training, the starting points in this enterprise were 'individuals in context', including issues arising for individuals from this context. Competencies, as given to trainers in training packages, were consulted *after* the program had been developed and *after* the issues identified in the workplace had been addressed:

> *Well, actually we discussed the sorts of issues that they (the company) thought were important, concerns they had about development of people on the floor and those sorts of issues, then developed a training program on the basis of that. So, we really developed a training program looking at the floor, at work and the issues, rather than starting with the curriculum. We developed our own curriculum on the basis of our understanding of the needs of the workplace and later ... we linked that through to the competencies and the VIC (Vehicle Industry Certificate), at a certain stage, after the curriculum had been developed, and after we felt satisfied it was addressing the key issues.*
>
> (ibid.)

Here, competencies were 'reporting and accountability requirements', rather than training or assessment requirements. In a work(er) education approach, it is contexts, rather than competencies, that drive training:

> *My belief is that I sort of respond to the company and to the needs of those individuals and to the context and I'll account for them (the competencies). It*

> *seems to me the competencies as written are my reporting and accountability requirements ... The people to whom I am really answerable are the individuals participating in the program and the company. And, those other stakeholders such as the union.*
>
> (ibid.)

A deliberate effort was made to expand on 'prescriptive, on-the-job skill training', to make training a self-managed system:

> *The major initiative we took was ... in the project work that they ... undertake, and I'm sold on project work, 'cos that was the way I was educated, even 30 years ago. I think project work is good so long as it's recognised within the project, that they, that is, the students, manage themselves. They're not managed. They're not told 'Hey do this, hey do that'. They actually get into a program and look after themselves.*
>
> (Managing Director, Carco)

The training conducted at this company emphasised the necessity to provide the skills, knowledge and attitudes that the company required *and* to critically question these requirements:

> *If you look at (the programs at) Toyota or Ford, or the traditional materials that are around, they're much more in terms of 'These are the core values and this is what you will repeat back to me and you will repeat back to me in the order in which I give it to you'. Whereas I believe what we do in our program is discuss some of those issues and listen to diverse views. We certainly accept and even encourage people to have their own point of view in relation to those things even though they may not be the sort of thing the company would encourage them to have. So I guess we provide an opportunity for people to express and explore their own relationship to those values and I think that's really important.*
>
> (Trainer, Carco)

Competence development at Carco included a values dimension. The training program was not abstracted from its social and cultural contexts. Substantive issues—issues to do with the *why* as well as the what—were an everyday aspect of provision.

4.4 Contribution of CBT: Employers, supervisors, trainers, trainees

It is difficult to distinguish the effects of training, let alone the effects of particular models of training, from other effects:

> *Virtually everyone I've put through ... a traineeship (here), particularly (at) levels one and two, is turning into one of our more productive, and for want of a better word, better staff members. Once again, I don't know whether it's because we put more effort into sorting out the right people to put through the courses, or whether it's the courses or a combination of both. I think it's probably a combination of both.*
>
> (Assistant Store Manager, Storeco)

Nevertheless, CBT can be claimed to have made the following contributions to stakeholders.

Employers: 'The bottom line is ... more relevance with competency-based training'

The cases revealed that CBT has made significant contributions to employers, its main benefits being that (i) learning can be achieved on-the-job and (ii) competencies can be developed which are suited to employers' immediate needs (as well as lead to a recognised qualification for their employees). The first benefit was noted particularly in small enterprises (which comprised half of the case sample):

> *For us, as a small manufacturing business, gone are the days of sending people off for training. CBT means we can do it all right here.*
>
> (Manager, Bathurst)

> *It's not book learning, they can actually go and do it ... We're using (competencies) more and more and more ... A lot of it was recognition of prior learning and that was a lot to do with the national standards. What we intend to use is our own in-house competencies that we have developed called ... core-skills competencies. We intend to link those to productivity payments ... So we're using them as a motivator, as a trainer, and as a means to fairly allocate productivity bonuses.*
>
> (Company Manager, Plantco)

The 'bottom line' for enterprises is training that is relevant to the workplace:

> *The bottom line is, I think ... more relevance with competency-based training. ... You're learning skills and you are going to become competent in the tasks and focussed on that task versus all the theory side, it's actually, as I say, you either can do the job, so you are either competent or you're not competent.*
>
> (HR Co-ordinator, Timberco)

The contribution of CBT to employers centred around assisting them to achieve organisational goals:

> *I saw it as something that was going to change, I guess, the fabric of the way the company ran and especially with the people it was aimed at, which was the shop floor guys. I guess we had a situation where there wasn't a lot of trust between management and the shop floor. There (were) morale issues there, there (were) a whole lot of problems. We'd been through a stage of downsizing (and) what have you, and this was one way to try and rebuild the place, and it's worked. Still got a way to go but it's well and truly on its way.*
>
> (Training Manager, Carco)

CBT formed part of corporate strategy, consistent with other strategies, such as quality initiatives, which are being used to assist enterprises to 'compete with the international market':

> *We've been involved with ISO (quality system) since the beginning. It's something that the company put in, they wanted to put ... competency-based standards in the place so they could compete with the international market.*
>
> (Supervisor, Timberco)

> *It just doesn't pay to do work below standards. We live by our quality and I think CBT is helping us maintain that. Nobody wants to be sued five years*

> *down the track because someone did some work they weren't skilled enough to do! That just can't happen, and it doesn't.*
>
> (Worker, Manteena)

> *To be competent means that they can do all the tasks that are on their job sheets without the need of constant supervision and correction. All this was brought about by a quality assurance program where we're absolutely trying to minimise reworking. We want to do it right the first time, every time. And umm, you know, it's very easy to tick off a person's competencies against the standard.*
>
> (Company Manager, Plantco)

Overall, CBT was found to be of benefit to employers because they could set standards (for example, in-house competencies) and use standards already set (for example, national competencies) for particular practical purposes, like providing market edge for the enterprise and securing a safe working environment:

> *I suppose when you talk to management they are very happy with picking up on competency-based training because it comes back to, well if there is a standard for operating forklifts and it's a national standard, we've got it. Also, it's coming back to that safe work practices and having a safe working environment.*
>
> (Training Co-ordinator, Timberco)

Supervisors: 'I want you to do this job'

Ample evidence exists in the case material to suggest that CBT functions, among many other things, as a surrogate workforce supervision system. Competencies were used not only as 'a motivator, as a trainer, and as a means to fairly allocate productivity bonuses' but also as a mirror which could reflect workers' skills (and whether these skills were being put to good use).

One of the main contributions of CBT to supervisors consists in the structure it provides for knowing what workers are and should be doing:

> *... how do you appraise somebody if you don't know what they should be doing? It's as simple as that. Yep. Those people need to know what is expected of them. So, it's got to work both ways.*
>
> (Training Manager, Carco)

> *I can see a big change since the program started. The guys are now thinking a lot more ... without us having to basically patrol the workshop. We can basically say, 'Right, we want this done, we want this done, and we want this done', and they basically go and do it.*
>
> (Supervisor, Carco)

> *Being able to do the work is most important. Being able to do it well all the time is really important. Being able to know you can leave someone doing a job and come back to a job well done is most important.*
>
> (Manager / Trainer, Manteena)

In the context of supervision, competencies function as a tracking device. Thus, an assistant store manager from the case-study enterprise Storeco describes competencies as tools 'where we sort of can make sure that ... people get that basic knowledge'. The interest of supervisors in making sure that workers have the basics lies, in part, in lessening the need for supervision, not having to attend workers 'every two seconds':

> *... being able to quite happily go to some person and say: 'I want you to do this job' and ... not have to be standing with them every two seconds going: 'Boom, boom, boom, boom, you can do this'.*
>
> (Supervisor, Timberco)

Apparently, CBT not only promises greater transparency in training through providing clear information on the outcomes of training but also delivers it, certainly at supervisory level. Organisationally, there were benefits to supervisors from using a training approach which is clear and systematic. At Timberco, where quality and safety issues tended to prevail, the synergy between quality specifications and training outcomes had distinct advantages in terms of consistency, safety and skill acknowledgement:

> *Its (CBT) outcome is good ... You've got a structure of people that you can know and it's documented they have trained to a set regime and you know that one person's training is going to be exactly the same as the next person's training.*
>
> (ibid.)

Trainers: 'Where at all possible we've taken a project, rather than a subject'

The findings from the case material on the contribution of CBT to trainers and providers are a little more ambivalent than those reported for the stakeholders above. They do however, support the claims of the research literature on the considerable effects of CBT on teachers' roles:

> *It's probably made me more adaptable, more tolerant and more organised and made me plan better. It's also meant that I've had to do a fair bit of work so that I've got the qualifications for some of the subjects that we run.*
>
> (Trainer, Plantco)

These effects were not necessarily unwelcome. The cases revealed a high level of job satisfaction for VET teachers and trainers, most particularly those who work within a particular enterprise or deliver training across a number of like enterprises.[7] They showed that enterprise-based providers were flexible operators, proficient at tailoring training to the needs of their clients and achieving their own purposes and plans:

> *If it is really wet we often organise to go to our provider and get through some training there. It works because we've all made an agreement to be really flexible.*
>
> (Manager / Trainer, Manteena)

> *So what I do is I match the curriculum outline with the way the company does their business. I think that's the important thing.*
>
> (Trainer, Carco)

> *I'm meant ... to ensure that the key areas of the curriculum are covered. I don't lose any sleep over that. If they are covered and I can make them part of ... what seems to me to be a potentially rewarding, relevant learning program, I'll incorporate them, but if ... I'm going to just do them because*

> *they say I've gotta do them, I won't. Unless there's an inspector sitting in the back of the room.*
>
> (Trainer, Carco)

As one might expect, CBT was found to contribute more to trainers with little experience of training than those who had been training for some years. Less experienced trainers were often in-house trainers who had risen from the ranks, with no training qualification other than train-the-trainer and no formal learning or curriculum models to draw on. They appreciated the structures provided by CBT:

> *I mean each trainer could ask different questions ... I mean we could all be getting something different, expecting different things from the person in training, whereas this gives us all a guideline ... Which you need when you're new.*
>
> (Store Trainer, Storeco)

However, these structures could easily tip over into directing the conduct of training, such that the end modified the means:

> *What I am saying is that they (supervisors) have done the trainer course, they have got all these good ideas about involving people to improve the learning skills, but then when it comes to the shop floor you get the guy sitting down, you give him the work instructions, read through this, and in ten minutes time I will give (him) a test on it.*
>
> (Training Co-ordinator, Timberco)

There was little evidence in the case material to challenge the idea that CBT as a model of VET treats learning and curriculum processes in an ambivalent way (i.e. provides 'parts' for delivering training—modules, subjects, work instructions—which require 'wholes'—teacher expertise, trainee expertise—to make the delivery work). This ambivalence was recognised however, by more experienced trainers and 'remedied' in practice:

> *... really, learning is about individuals in context. I mean that's your starting point every time. Learning is about the issues that present to you in a particular context and are pressing for you in a particular context ... Where the points press hardest, that's where your richest learning is going to take place. At the moment we have a proliferation of trainers, who see their task as delivering a set program and while you have that stuff happening, you're not going to have any real learning. So, I guess if I could rewrite policy, I would start with somehow ensuring that we have educators who understood those primary starting points. And who are skilled enough to be able to identify them and turn them into curriculum.*
>
> (Trainer, Carco)

> *Where at all possible we've taken a project, rather than a subject, and made sure that (the) project encompassed a whole lot of skills and competencies and got the training to work on that.*
>
> (Trainer, Plantco)

Trainees: 'It's great to have your skills recognised'

The case studies showed that one of the main benefits for trainees of CBT is gaining a recognised qualification:

> *This program (CBT) gave … the trainees … the opportunity to … benefit by getting something in writing and saying that they have qualifications to Australian standards, which we couldn't offer.*
>
> (Training Manager / Supervisor, Plantco)

> *So, say if I ever left here and moved interstate for some reason, I can say: 'I can do that. This is what I have done' ... It's recognised training.*
>
> (Trainee 2IC, Storeco)

This benefit included recognition of prior skill and experience:

> *It's great to have your skills recognised. Sometimes just a nod of the head tells you that you've done it well. Other times, when you get a real rap, you feel really good. I've done other courses where I never knew how I was going until the end. I come to work here, work, learn and every day leave feeling that people are seeing change in me and in what I do … You know you can do the job, but it's really important that you have other people reminding you that you can do it.*
>
> (Trainee, Bathurst)

which was especially important to 'minority' trainees:

> *Have a look at (him) over there. He has worked in the industry for ever and a day. Everyone knows him and everyone wants him to work for them … He has never done an apprenticeship, never been in a classroom to learn a trade, never done any formal training… We started to look at the skills he had already and matched them up against competency standards. If he let us go on and on, I'm sure he'd end up the most qualified construction worker in the country. He's now got a record of his skills, he's on a higher wage and he's now training our workers … You know what? English is about his third or fourth language but that's not what CBT looks at. We're not using CBT or assessment to test and develop his English language are we? His language is sound enough to allow him to do the work really well—that's it. No barriers, just acknowledgement of skills and ability. He's the one to watch!*
>
> (Manager, Manteena)

While important in itself, this recognition provided further advantages:

> *(CBT) also builds on their experience. Rather than it teaching or starting right from the beginning and teaching everybody the same thing whether they need it or not, it allows that tailoring ...*
>
> (HR Manager, Council)

> *It knocks a lot of time off your assignments and stuff. (You) do it at work anyway. A lot of it they'll say: 'You're right, you've passed that aspect already'. And that's the good thing about it ... I think the way it's set out is good. It's the way it should be'.*
>
> (Trainee, Plantco)

Other notable benefits of CBT had to do with the opportunity it presents of applying learning directly to the workplace and achieving 'real' results:

> *I find it, it feels better at the end because you've actually achieved something whereas just getting a piece of paper saying you were there, it's not really anything ... I've got a folder full of bits of paper saying I was in a certain place at a certain time and this bloke was talking about something, but it*

> *really doesn't mean anything unless it says: 'We asked her questions afterwards and she knew what we were on about'.*
>
> (Trainee, Council)

The consensus of trainee opinion in the case studies was that competency training is 'the way (training) should be'. While partly a matter of training location and the quality of training provision, CBT was given a glowing report:

> *The time we are with Manteena gives us really great training. I've spent some time working with other companies where I haven't even been trained at all. At another place all they did was tick off boxes in my paperwork. At Manteena it's really different. I get asked about why I do things the way I do, how I do things. I can ask questions without feeling stupid and we only ever tick the boxes at the end of a day, or a week. It's a good feeling. I know I'm learning the skills and I'm learning about the construction industry.*
>
> (Trainee, Manteena)

4.5 Contribution of CBT: Education and training

There is little likelihood of specifying the educational outcomes of CBT with any precision. Other changes that have been introduced to VET to support the process of training reform have also created effects, as frankly acknowledged in the following:

> *I think the recognition process has probably contributed more (to trainees' skills and knowledge) than some of the training that we've provided because it's given the trainees a focus, it's given them an orientation, and it's given them a benchmark … to work on and something else to aspire to.*
>
> (Training Provider, Plantco)

These difficulties aside, CBT appears from the case studies to have created the following effects in VET.

Workforce knowledge and skill: Specific and generic skills

The cases revealed clear findings in relation to the positive contribution of CBT to providing specific, technical skills:

> *We are an extremely specialised industry. Our workplace requires staff to have very particular skills that you can't get anywhere else. By training on-site we make sure that we have the best skills to get the work done.*
>
> (Trainer, Bathurst)

However, they were more ambiguous about its success in providing generic, behavioural skills:

> *The mechanical skills part of it is fairly straightforward because they can either do it or they can't. But there are other aspects ... particularly with the customer service skills, that obviously would vary a bit … I think customers, particularly if you are dealing with a problem customer … it's very difficult to set any sort of a standard there, 'cos they are all slightly different. If you use the same tactic on one, that will set another one alight!*
>
> (Assistant Store Manager, Storeco)

> *I think somewhere within competency standards and competency-based training you have to get away from: 'This is the way you train somebody, this is the way you da, da, da, da, da'. And have this dirty great … section on human relations—dealing face-to-face with people and how you solve problems talking to people ... We have to deal with people skills, social skills.*
>
> (Supervisor, Timberco)

Where training was found to make a significant contribution to generic skills—'dealing face-to-face with people and how you solve problems'—it 'shaded off' into developmental and educational activity, for example, the teams training at Council, which ran parallel to CBT, and the project work at Carco, in which the emphasis was on self-managed or self-directed learning:

> *I have some concern with the concept of competencies in terms of training people in attitudinal or behavioural type areas ... I believe that the competency stuff works very well with skills based and that's why it works with field staff and manufacturing and so on and so forth, but when you get into areas of things like communication, interpersonal stuff, diversity, I think that you need groups of competencies or another approach to complement it.*
>
> (HR Manager, Council)

> *The major initiative we took was … in the project work that they … undertake ... I think project work is good so long as … it's recognised within the project, that they, that is the students, manage themselves. They're not managed. They're not told 'Hey do this, hey do that'. They actually get into a program and look after themselves.*
>
> (Managing Director, Carco)

Skills and knowledge that 'transfer'?

An important issue for any vocational training system is how to develop knowledgeable skills in such a way that individuals acquire the willingness and capacity to explore and apply their knowledge in diverse settings, innovate, construct new understandings in the process and disseminate them. As defined in the literature review, adaptability involves the ability to use existing knowledge in new ways and unfamiliar situations that lead to the generation of significant new knowledge in the process. This is the essence of transfer.

The cases provided plentiful evidence of transfer that is specific—transfer that occurs during routine problem-solving, when clear similarities exist between the original learning and the transfer task:

> *We go out to school ... two days a month whatever, and we are just given sheets and we either read them out or do the exercises, things like that, group work … And then we come back here (the workplace) and prove we can do the work, like get assessed ... Like for the one module we've got five or six questions, things that we have to do, some might be marked off at school and some the person might mark off here.*
>
> (Trainee, Storeco)

> *At the moment we are using a lot of flexi staff so there is a bit of training to do. I have to make sure they have read the work instructions, give them their orientation, take them to the machines where they will be working and actually tell them and train them for what they will be doing. Most of it is*

> *just basic stacking of timber which isn't really hard to teach someone. They pick it up within 10 or 15 minutes.*
>
> (Trainer / Leading Hand, Timberco)

However, other evidence exists that suggests that CBT programs, or, perhaps, the pedagogic approach used in these programs, promotes transfer that is non-specific, that is, transfer that occurs particularly in non-routine problem-solving, where considerable differences exist between the original learning and new requirements, and in which goals of the transfer task may be ill-defined or indeterminate:

> *Where at all possible we've taken a project, rather than a subject, and made sure that that project encompassed a whole lot of skills and competencies and got the training to work on that rather than knowledge for knowledge sake. So at the moment I've got one set of trainees working on an interactive plant identification kit so they are taking photographs and putting together a training package.*
>
> (Trainer, Plantco)

> *If these guys (on the shop floor) have got to be able to talk to engineers, they've got to be able to talk to them on the same basic terms, and the knowledge may not be as deep but it's still the same knowledge factor.*
>
> (Trainer, Carco)

There was ample evidence in the case studies to suggest that enterprise-based competency training runs the risk of developing competence in site-specific skill and knowledge only. Company competencies were used to train employees in 'in-house things'—knowledge and skills required on-site. They covered aspects that were unique to the company and comprised its 'intellectual property':

> *(In-house competencies) might be totally irrelevant (outside the company). I should hope they would be ... We have had other nurseries ... head hunting our staff because they've been trained by (us). So that's a bit of a worry.*
>
> (Company Manager, Plantco)

> *The knowledge and / or skills within the company is fairly important in that we try to increase the knowledge base and the skills base within the company. Because it's basically an entity, we keep it as such. And, I've been fairly careful about transfer from one company to another because I'm very aware of intellectual property, and sensitivity, or sort of production details, things like that.*
>
> (Trainer, Plantco)

The emphasis, most particularly in small enterprises, is on 'the best skills to get the work done'—'very particular skills that you can't get anywhere else'—skills that can be developed to a high level so that the business remains competitive:

> *We grow a select product which is recognised across Australia and the only way we can do that is by having people on the ground who know what they're doing ... It's more based on our own in-house training rather than the ASF (Australian standards framework) levels. We're basing that on skills that they know and skills that they use and actually apply in the workplace.*
>
> (Training Manager / Supervisor, Plantco)

> *We've just got to keep ahead and keep business coming in. Part of how people know us is based on the high levels of skills of our workers—we're proud of that.*
>
> (Manager, Manteena)

> *We are an extremely specialised industry. Our workplace requires staff to have very particular skills that you can't get anywhere else. By training on-site we make sure that we have the best skills to get the work done. After all, the work is the training and the training is the work.*
>
> (Trainer, Bathurst)

Learning and learning cultures: Anticipatory and reactive

The cases revealed that CBT achieves excellent results in relation to particular types of learning and particular kinds of learners:

> *The time we are with Manteena gives us really great training ... I get asked about why I do things the way I do, how I do things. I can ask questions without feeling stupid and we only ever tick the boxes at the end of a day, or a week. It's a good feeling. I know I'm learning the skills and I'm learning about the construction industry.*
>
> (Trainee, Manteena)

> *It's also about on-the-job learning that can be done in an informal way. It doesn't have to be formally set up in a classroom, which appeals to a lot of adult learners ... I think the quality of training in terms of being responsive to individual needs has improved.*
>
> (HR Manager, Council)

They also showed that learners can form identities as problem-solvers, researchers and investigators:

> *They're finding the problems a lot earlier ... They're solving those problems before the model starts up as job one.*
>
> (Supervisor, Carco)

> *Part of the competency-based training that we provide is about observation and being able to delve and find information. It's not a great memory test. But if they have a holistic view and they can see that there's something different about a plant, they can start to investigate and find out why it's different and that's what we try to train them to do.*
>
> (Trainer, Plantco)

Evidence of *problem-setting* by learners was less pronounced. For the most part, in the case study enterprises, competencies were conceived as already set. The emphasis was on providing conditions for learners to develop certain given or predetermined knowledge and skills, not construct new knowledge or form new skills:

> *Its (CBT) outcome is good ... You've got a structure of people that you can know and it's documented they have trained to a set regime and you know that one person's training is going to be exactly the same as the next person's training and all you have to do in that scenario is get it right in the first place.*
>
> (Supervisor, Timberco)

> *When I am asked to take on a trainee, I interview the client—who I term the employer, and the employee, work out what kind of work they do, and how they fit within the competency framework. So someone who has just started working in the industry will possibly go on about a level one, one and a half. If they've been working in the industry for a while but still have a shallow understanding of what's going on, they'd be level two. And if they've been working in the industry for about three to five years, they usually have competencies at about two and a half. So what we do is round off their knowledge and increase their competency base so that they can achieve as we go through the whole group of competencies as per the training package.*
>
> (Trainer, Plantco)

On the whole, learners and workers were not encouraged and expected to try to change and improve learning and work tasks, if encouragement and improvement meant redefining or resetting those tasks ('competencies as per the training package'). In other words, question the definitions of tasks and diagnose the task situation—*anticipate* what might be required rather than *react* (albeit imaginatively) to existing requirements.

Apart from some notable exceptions, which is discussed next, they were not engaged in a type of learning referred to as 'generative' or 'anticipatory' (Candy & Matthews 1998, p.13). Anticipatory learning aims to produce learners who seek out opportunities for new learning; who constantly scan the environment in an attempt to predict what the major new directions will be (ibid.). It is facilitated through curriculum that is conducted along the lines of 'Let's try this ... ' or 'What if ... ?' and so on. Such a curriculum invites the possibility that tasks (competencies / outcomes) may be changed in the act of their achievement. Anticipatory curriculum emphasises *rehearsing* outcomes as much as *reporting* them (ticking the boxes, signing trainees off). It implies the importance of learner-workers acting on rather than adapting to change.

Innovation in the workplace: Adaptive and developmental expertise

Overall, there were few examples in the case material of strong links between CBT and innovation. Thus, one company manager, when asked about whether CBT encourages innovative work practices, for example, problem solving, creative thinking, made this reply:

> *Not much. Well see, the formal part of CBT they follow a national syllabus so there's no innovative work or learning practices or problem solving in that until you get into the really high levels and our people are only at level three. Creative and critical thinking? They've got a syllabus to learn and be competent in skills. No, it doesn't really apply.*
>
> (Company Manager, Plantco)

Again, an assistant store manager at the supermarket Storeco, when asked whether training builds a capacity in people to adapt to change, made this response:

> *Well, I've never been asked, I've never really thought of it in those terms. I've tended to look at it as: 'Oh that's competency-based training and you're competent in that subject' and you leave it there and that's where it's stopped.*
>
> (Assistant Store Manager, Storeco)

At Community, the remote East Arnhemland Aboriginal community, where innovation in work and learning practices might have been expected to occur, innovation was discussed in these terms:

> *The major emphasis for the visiting lecturer and for trainers that could be considered, innovation has to do with trying to find ways in which to deliver competencies to satisfy the requirements of accredited training.*
>
> (Off-the-job Trainer, Community)

At Timberco, where an 'instructional' style CBT program was in place, innovation and change developed informally outside structured training:

> *If you come up with a better idea, yeah you try. Not to do with the grading or all that because that's specified. But something with the machine, like the outfeed where the timber comes out, think (of) a better way to make work easier ... With the machine once you dock it up, it comes out whatever size and wherever, but sometimes you just experiment where it is better off coming out and things like that.*
>
> (Employee / Trainee, Timberco)

The case studies revealed that a particular type of expertise—*adaptive expertise*—is the preferred training outcome. Adaptive expertise emphasises competencies for handling routine tasks that are frequently recurring. This type of expertise lends itself to situations that require a response of a kind that people can predict and rely upon, such as preparing a quality product with a workable turn-around time:

> *We are a very reactive business. We're not so proactive. If a customer wants an order today, they want it today ... not in two weeks time.*
>
> (Manager, Bathurst)

The results of the case studies support the findings of other research on the relatively limited contribution of CBT to *developmental expertise*. This type of expertise involves 'continuous experimentation and innovative activity on the part of employees during ongoing activities in everyday work. ... In practice, this means a continuous movement between routine and non-routine work as well as between well-defined, repeated tasks and poorly understood, rarely occurring problem situations' (Ellstrom 1997, p.270).

While this type of expertise was encouraged at some level in a number of case study companies:

> *We can't control some changes, but we can be ready. I like to think that the training I do here and the work I do is helping to make a more proactive, prepared workforce.*
>
> (Trainer, Manteena)

> *While we are getting the jobs done, they (the trainees) are also learning about the reality of urgent orders. I don't have to stop learning at work—it's all about getting orders out and learning while you do it.*
>
> (Manager, Bathurst)

it was consistently demonstrated in two:

> *I mean we have plumbers, carpenters, who now come to us and say: 'Right here's our business plan ... we want to work out of home, we want to set up a van where, just like our opposition would, we have all our tools and all our*

> *spare parts in a van, and we need a mobile phone, we will guarantee this type of turnaround on work' and so on and so forth.*

(Acting CEO, Council)

> *They're finding the problems a lot earlier ... They're solving those problems before the model starts up as job one ... They seek people to help them, they come up with ideas, new ways of doing things.*

(Supervisor, Carco)

In these case-study enterprises, a change-oriented worker competence was required. Individual competence was defined as a capacity to reflect and to act on the (work) environment:

> *My definition of competency goes something like the way in which we can effect through the training program a group of individuals who can be proactive within their company and therefore can achieve a better workplace for themselves ... for the benefit of the company and themselves.*

(Trainer, Carco)

Innovation in this workplace in particular was understood to be socially organised: a process that could be used by workers to 'achieve a better workplace ... for the benefit of the company and themselves'. The social organisation of innovation gives attention to 'learning processes and proactive behaviour by individual(s) or collective actors' (Ellstrom 1997, p.266). It emphasises the involvement of workers in company decision-making through the competent use of knowledge and skill. This case revealed an approach to innovation that goes beyond training policy in VET. It implies the need for a shift of emphasis in this policy from adapting and reacting to complex and dynamic situations to acting on and re-shaping these situations.

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5 Implications for VET

In what follows we draw out the implications of the findings from the literature review and the empirical component of the evaluation for VET policy and practice. We also discuss the efficacy of CBT as a model of VET and its strengths and limitations in relation to possible future directions in Australian VET.

The Australian model of competency-based education and training gives priority to outcomes (expressed as standards). In conducting this evaluation, we utilised four key defining features of CBT—(i) specified training and assessment outcomes; (ii) industry involvement in defining these outcomes; (iii) competency standards as the expression of these outcomes; (iv) training programs based on industry competency standards—as a means by which to appraise its contribution to VET and its general worth and effectiveness.

These features highlight the tension between the twin goals of the outcomes-based model to deliver nationally integrated standards *and* relevant workplace standards. The tension between national industry standards and local enterprise standards turns, in part, on the ambivalent role of industry in setting standards for VET. In Australia's competency-based VET system, industry functions as both peak body—spokespersons for employers and employees in an industry sector—and 'home' to enterprises and their characteristic types of activity.

If improvements are to be made to CBT, as the currently established model of VET, they will involve, among other things, finding ways to manage the tension between national goals and local goals. In current policy arrangements, 'ideals' of consistency, as expressed in national industry standards, frequently conflict with 'realities' of diversity (for example, these standards cannot always take the requirements of local enterprises into account). The results of the empirical component of the evaluation however, tend to suggest that, far from being a simple opposition, national goals and models and local goals and models can be worked together. The 'trick' in VET practice is understanding the options provided by these models and making an appropriate choice.

5.1 Implications for policy

Models of VET

Very basically, there are three positions one can adopt in relation to improvements that might be made to CBT as a model of VET: (i) neither the concept (competency) nor the model (CBT) needs work; (ii) the model needs work, but not the concept; (iii) both the concept and the model need work.

This evaluation provides empirical support for all three positions, suggesting that CBT is not a singular and universal training approach.

The case studies reveal a tension between two broad orientations to competency: a content orientation and a process orientation. The former emphasises *tasks* required by the job—'specific skills for specific jobs'; the latter the *contexts* in which the job is done—'They're learning how a program initially starts from the ground up, to the final product that they see'. Like the findings from the national survey, competency is commonly conceived as 'content'. Consequently, competency training is oriented towards the creation of specific outcomes.

An issue raised by the data, most obviously in the notion of competency as process, is whether the content orientation is too narrow. The findings of the literature review, most particularly the European literature, where competence involves many aspects, for example, professional / vocational competence, social competence, organisational competence, personal competence, community competence (Kjellberg et al. 1998, p.214), lend support to this possibility. Securing improved outcomes for VET may involve recognising and managing the tension between different orientations to competency through, for example, acknowledging that each orientation can have a valuable place in the overall structure of VET provision and that the benefits that clients seek from this provision may include both.

The orientations above imply, at least for some stakeholders in CBT, that 'the concept (of competency) needs work'. Another issue raised by the data, most particularly the case data, is whether the currently established outcomes-based model is a stand-alone model. This study provides strong empirical support for the idea that different models of VET exist. Support is also provided for the idea that these models co-exist. Four broad and interrelated models of VET are apparent in the case material: (i) an instructional model; (ii) a training model; (iii) a developmental model; (iv) an educational model.

The choice of model(s) in each case-study enterprise is informed, in part, by the business strategies being pursued and the broader enterprise culture. For example, enterprises which require 'specific skills for specific jobs' tend to opt for an instructional or training model. Inasmuch as this requirement characterised the majority of enterprises in our sample (including the enterprises surveyed), these models were the most popular. Findings from both the national survey and the case studies show that CBT promotes and provides specific measurable outcomes: 'Competency-based training certainly allows people to measure and define the sorts of skills and activities that they undertake ... If we're looking at structured skills development ... it says: "Here are the things that will guide that development"'.

An issue raised by these findings is whether, given the changing world of work and changing character of society ('knowledge society', 'post-industrial society'), an orientation toward 'structured skills development' is sufficient in VET. The case data suggests that some 'clients' of the training system are already doing things differently: supplementing CBT with other training—'(The) move to team development has come parallel with competency-based training and they work very nicely together. ... You don't do one or the other, you need a nice balance. ... We're aiming to complement skills development with an actual cultural development'. This practice again implies the idea that CBT is one of a number of possible training options: it is not a universal training approach.

Uniformity and diversity: National and local standards

There are many issues raised by the data with respect to national industry standards as the basis of education and training in VET. The results of the case studies and the national survey broadly match the findings of the research literature on the most 'appropriate' design and application of these standards. The development and national endorsement of competency standards is generally approved by enterprises. National standards, however, are commonly supplemented by other standards towards meeting the particular requirements of individual enterprises and other stakeholders. These standards can be standards specific to the enterprise, standards specific to the profession, and / or other standards (for example, ethical standards, personal standards). The broad trend in enterprises—well evidenced in the case-study enterprises Timberco, Plantco, Storeco and Council—is to put site-specific competencies in place, competencies that are frequently, but not always, aligned with national industry competencies, depending on the purposes of the enterprise.

The majority of enterprises were found to be using industry endorsed competency standards, but not necessarily as intended in public policy (as the basis of training and assessment; as a vehicle for skills portability and labour market mobility). In some cases, these standards were used to drive the development and delivery of training; in others, they were used in conjunction with actual work skills and tasks so that the 'paperwork' and practice could be brought together. Thus, many enterprises were using national standards principally for purposes of achieving formal recognition for individuals of skills: 'National competency standards are used to improve skills, give formal qualifications, facilitate RPL (both within and outside the enterprise) and allow trainees to gain credits for further studies at TAFE or university. Enterprise standards are used to improve skills and ensure that relevant and specific skills are taught'.

National and enterprise standards were found to provide for similar *and* different things. The survey and case data show a complex relationship between national competencies and 'in-house' competencies. This has important implications for the ways in which VET providers interact with enterprises when developing and delivering programs. The case data illustrate that where enterprise standards are not in place, they can be created informally as happened at Carco where the trainers took it upon themselves to 'sort of respond to the company and to the needs of those individuals and to the context'.

The issue of how national and local standards (or, more broadly, national and local goals) connect also has important implications for how national standards are structured and defined. Evidence from the case studies supports the findings of other research on competency standards reported in the literature. This evidence suggests that competency standards can, with profit, be structured in a framework, which allows those using the standards for training purposes to freely interpret them. It is in line with the work of Childs (1997, p.33), who argues that if providers and adult educators want to ensure that employers and employees gain access to national standards and enterprises participate in the national training system, they should 'creatively interpret the standards to reflect work practices (not vice versa) using the twin work-based learning concepts equivalence and relevance'.

It was evident in the case data that where trainers attempted to deliver and assess directly to competency standards—use them as given guidelines and plans—CBT became a problematic approach. The outcomes of such attempts were less than positive (certainly for trainers; arguably, less so for trainees). For example, at Community the trainers apparently saw competencies as very important and were not willing to change or alter learning outcomes that were contained within training documents. They relied on the training document as a form of authority when delivering the training.[8] Taking this document into account, they would work out a standard way to demonstrate and deliver a competency. This standard approach was also perceived to be useful to trainees.

A substantial body of evidence (ACG 1994; Sweet 1994; Billett 1998b; Billett et al. 1997; Childs 1997) suggests the importance of leaving much of the decision-making about training content and processes to the judgement of individuals on the ground. Some of this evidence indicates that enterprises are looking for similar flexibility—avoiding the problems of over or under-specification of competencies, both in national competency standards and the training programs which are based on these standards. The results of the case studies and the national survey support these findings.

The tension between specific skill standards—standards specific and relevant to a single enterprise—and generic skill standards—standards specific to industry or not specific to a single enterprise—is common to all countries using a skill or competency standards training system. It appears that this tension is being managed in a variety of ways in the field. A common finding from the survey in this study was that the development and national endorsement of competency standards was strongly supported by enterprises where such standards were seen to be useful. In relation to the choice between using national industry standards and enterprise standards, decisions seem to be made situationally. Generally, a *composite approach* appeared common in relation to choosing competency standards. The lack of enterprise specificity of industry standards commonly accounted for this composite approach.

The key issue raised by the data, with implications for practitioners and policy makers, is the complexity of the relationship between national standards and local standards. Seemingly paradoxical, it is the focus on locally designed standards that gives national standards legitimacy in the workplace: 'It's more based on our own in-house training rather than the ASF levels. We're basing that on skills that they know and skills that they use and actually apply in the workplace'. At the same time, a focus on national accredited competencies can lend credibility to local company competencies: 'If there is a standard for operating forklifts, and it's a national standard, we've got it'.

Training, innovation and change: Strategies for VET

In contemporary theories of work, attention has been moving beyond a perspective where work is defined as an ordered activity akin to a production process. Such activity requires expertise in handling routine tasks that are frequently recurring, or, in Ellstrom's (1997) terms, 'adaptive expertise'. Work is now understood to demand novel responses in non-routine situations. It is defined as an activity in which the following features come into play:

- flexible production processes which can meet short deadlines and solve problems as they arise

- flexible management systems which can meet quality standards and competition challenges, for example, Total Quality Management and Quality Assurance systems
- diversification of products and shorter product life cycles
- new forms of work organisation, for example, flexible structures which are capable of adjusting rapidly around 'profit centres', for example, autonomous working groups, self-managed teams

In line with contemporary theories of work, training policy in Australia is intended to produce a more flexible and innovative workforce, which is able to meet the continuing challenges of change. However, as Foster notes, 'CBT policy is addressed through approaches which emphasise greater standardisation and conformity of skills designed for predictable work roles and tasks' (1998, p.3, *Other issues in implementing CBT*). Unlike the United States of America, where arguments have been made for structuring skill standards in a framework that depends fundamentally on broad-based workplace scenarios rather than specific worker tasks, we, in Australia, appear committed to 'specific worker tasks' (and, by extension, the type of competence or expertise that these tasks commonly require i.e. adaptive competence / expertise).

The results of the national survey and the case studies support the findings of other research on the relatively limited contribution of CBT to developmental expertise. This type of expertise involves:

> *continuous experimentation and innovative activity on the part of employees during ongoing activities in everyday work. ... In practice, this means a continuous movement between routine and non-routine work as well as between well-defined, repeated tasks and poorly understood, rarely occurring problem situations.*
>
> (Ellstrom, 1997, p.270)

Where evidence of the development of this type of expertise is found in the data, it is interesting to consider why this development occurs in some enterprises and not others.

The context in which individual enterprises operate and make training decisions (including choosing a training model) varies considerably across the case and survey data. Companies that are supply oriented (for example, Timberco—a 'production push company'; Bathurst—a 'reactive business'), tend to require a type of expertise that those who buy the company's product can expect and rely upon. Companies that are market oriented (for example, Council, where a 'competitive culture, customer focused culture' was in place) tend to require a type of expertise that reflects the integration of many different tasks within a flexible work organisation.

According to Bengtsson (1993, p.140), it is possible to identify three different phases or stages in the strategy that enterprises adopt when responding to external change, with each stage having different implications for the skill structure of the workforce and the expertise required. The first phase is called a 'product-driven education and training strategy'. Enterprises invest in education and training in relation to its tangible benefits, often in terms of new technology and the launching of new products or services.

> *This education and training often tends to be product-specific, and when the workforce masters the new equipment and products these investments in education and training tend to flatten out, particularly if the products are expected to have a rather long life cycle.*
>
> (ibid.)

The types of skills required in enterprises using this strategy are specific skills.

The second phase can be called a 'market-driven education and training strategy'. Here, investment in education and training is based on the needs of enterprises to respond to changes in the market in terms of both greater variety of products and services, and higher quality.

> *In this phase, enterprises tend to look for a more flexible work organisation and their investment in education and training will increasingly focus on the need to develop multi-skilled workers capable of performing many different tasks within a flexible work organisation ... Within this phase, education and training efforts lose the ad hoc characteristics of the first phase and become a permanent feature of the enterprise business strategy. The kind of skill structure that tends to develop in this phase is, above all, shaped by the multi-skilled worker and the need for competences that reflect the mastering and integration of hitherto isolated and fragmented domains of the enterprise.*
>
> (ibid. p.141)

A third phase emerges when knowledge and information become the raw material with which enterprises work. This phase tends to emerge particularly in small and knowledge-intensive enterprises in the service sector (for instance, business service firms).

> *In these enterprises, learning and working increasingly become an integrated process. The skill structure that tends to emerge has its priority around problem solving and entrepreneurial skills. This phase could be called the process-driven strategy for education and training where most new tasks have a new knowledge dimension and where learning becomes an essential part of successfully executing a task.*
>
> (ibid.)

Like the training models discussed in 'Models in VET' on page 75, strategies for VET are not singular or universal. The case data show that while one strategy may predominate, enterprises direct their training efforts to more than one phase at the same time. Thus, Council is a company that is not only rapidly professionalising and knowledge-intensive, but also market driven. Different strategies for VET are used simultaneously. Indeed, directing efforts across phases and utilising more than one strategy at any one time can be argued to contribute significantly to enterprise survival and success. The issue raised by this data, with implications for public policy in VET, is the tension between pursuing a single education and training strategy and pursuing multiple strategies. As the data show, CBT lends itself well to a product and market-driven strategy for VET. It lends itself less well to a process-driven strategy. These strategies are not necessarily alternatives. Each can have a valuable place in the overall provision of VET.

5.2 Implications for practice

Some major implications of the research findings for practice are outlined below. These address the interrelated areas of curriculum development, knowledge-making, pedagogy and organisational arrangements for training. In discussing such implications, recommendations directed towards training providers, enterprises, curriculum developers and trainers, are made.

Developing curriculum

Evidence from both the national survey and the case studies shows that CBT, as a standardised curriculum, is viewed very favourably in many enterprises. However, across all industry sectors, a concern for the omissions in such a framework and a call for a more holistic, professional approach to curriculum development, for some purposes, is made. This appears to be in line with the work of Laird and Stevenson (1993), who describe a fluid approach to curriculum development, with four interactive components. 'Formulation of intent' or, broadly speaking, what the curriculum is to be designed for, replaces the pre-specification of outcomes. A second focus is the 'appraisal of concerns', through, for example, a situational analysis that takes into account the requirements of the industry and enterprise. 'Deliberation about practice' is a third focus that explores decisions about teaching and learning, implementation and evaluation. All these facets are then embedded in the context of values that are appropriate to the learning involved.

Another issue raised by the data, with implications for practitioners and curriculum-developers, is the tension between using curriculum that is designed around broad, generic standards that allow for standardisation across an industry and potential portability for individuals, and curriculum that uses enterprise-specific standards that meet the particular requirements of the enterprise: 'You could make a guy so narrow that you could make them unemployable in any other industry or organisation'. Flexibility is sought and, in many cases, exercised in translating national standards and supplementing them with enterprise or industry-specific and informal standards. 'Broad, generic statements, with enterprise-specific overlays' were suggested as a way of managing this tension. Indeed, both trainers and assessors need to exercise wise judgement in the application and use of standards since unforeseen contingencies will inevitably arise, at times, in all workplaces, requiring the modification or abandonment of certain standards.

Billett et al. (1997, p.7) recommend an approach that involves 'broad statements of intent, aims and goals' to 'assist with national uniformity and coherence'. These authors suggest that detailed statements of objectives should only be identified 'at the enterprise or educational institutional level' (p.8). This would provide a situated approach to curriculum development, which would be empowering for vocational educators and, simultaneously, address the requirements of enterprises, regions and individuals. They also recommend that process objectives be used in the place of behavioural objectives, focusing on those processes that are specific to knowledge construction and transfer. Such an approach is compatible with a curriculum development model that takes work practices and processes as central to the development of knowledge and skill (Attwell 1997).

Indeed, it appears desirable that the four interrelated models of VET that were found to be used within the case study enterprises, namely, instructional, training, developmental and educational models, should be considered as potential models for all enterprises. Choices among models need to be related to the particular requirements and culture of each enterprise and the strategy for VET that is deemed most appropriate in current circumstances (Bengtsson 1993).

Developing knowledgeable skills and developmental expertise

In much of the European literature the main purpose of VET is seen to lie in facilitating the *transformation* of knowledge and non-routine problem-solving, together with developing entrepreneurial skills and the formation of developmental expertise. Workers are required to develop a 'situation-oriented ability to act' (Buck 1997, p. 97) and competence is defined broadly and relationally as competence-in-use, a concept that includes a concern with the social, organisational and political knowledge of the workplace, as well as proficiency in specific skills. Such purposes are consistent with a process-driven strategy for VET, in which learning, working and organisational innovation are given a major priority within an enterprise (Bengtsson 1993). The situated nature of skills is also recognised, as in the Australian literature, implying that developing the ability to 'transfer' one's knowledge and skill must be actively sought by trainers and trainees, even for so-called generic or key competencies.

Evidence both from the national survey and the case studies indicates that enterprise-based training risks developing competence relevant only within a particular enterprise. The skills and procedural knowledge currently being developed in enterprises are quite adequate to routine problem-solving, where situations for transfer are broadly similar, but are not transferable either across an industry or where non-routine problem-solving is required. Such training pays scant attention to the important role of tacit and experiential knowledge in providing both a basis for the development of robust vocational knowledge and its maintenance over time. Conceptual knowledge required as an underpinning for many skills (and a very important element in transfer) is also neglected.

Within the data, there is a plea for a renewed emphasis on broad foundation skills across an industry, for example, riveting and welding, rather than focusing too extensively on skills specific to the enterprise. However, in so doing, the situated nature of all skills needs to be recognised and pedagogical approaches devised that enhance the possibility of transfer across a variety of industry contexts, for example, exploring the principles involved, understanding why a procedure is carried out in a particular way and investigating how such procedures and strategies might be modified in other circumstances.

Pedagogy

There is much evidence in both the national survey and the case studies to suggest that the success of CBT relies upon the expertise and ingenuity of VET practitioners, whether these are expert supervisors providing guidance on-the-job or professional trainers specifically employed to deliver training by the enterprise. Expert practitioners engage and motivate learners, coach, encourage, supplement the curriculum as documented, use a mixture of formal and informal standards to guide curriculum development, and devise a variety of pedagogical approaches in the interests of particular groups and individuals. Thus they seek

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to develop many types of knowledge and expertise, enable transfer of knowledge and skill and acknowledge the needs and preferences of a wide variety of learners.

There is also evidence of the importance of developing workplace learning cultures in enterprises, a point also stressed by Harris and Volet (1997). In the view of these authors, such cultures promote a positive learning climate that emphasises 'learning to learn', the recognition of expertise, incentives and rewards for learning and a wide range of learning opportunities, from job rotation to mentoring and participation in consultative groups to completion of accredited modules.

O'Donell and Garavan (1997, p.133) note that 'perspective transformation', resulting in changes in workplace practices, is probably the most appropriate guide for learning strategies—in those enterprises where work-process knowledge is emphasised and a process-driven strategy for training is preferred (Bengtsson 1993). Such learning involves not only technical learning, but dialogic and self-reflective learning and often leads to personal, organisational, cultural and social change. Learners need to be encouraged to identify problems and contradictions in workplace practices, and then contribute to their redesign—as well as engaging in more routine types of problem-solving. Engaging students through dialogue and critical pedagogy is thus an important focus for vocational educators.

Action learning is especially helpful in developing strong commitments among groups of workplace learners. Billett (1996d, p.64) notes that 'the focus of the learning process is to secure goals relevant to the project and then reflect on the project to extend knowledge further'. People thus learn from each other in the process of attempting to devise solutions to workplace issues and undertake joint reflection on the results of their efforts. Thus project-based, problem-solving activities can be combined with technical training and with training for key or generic competencies. The efficacy of this type of project-driven training is strongly supported in sections of the national survey data and in the 'Carco' case study in particular.

Developing partnerships between providers, enterprises, trainees

Evidence from both the national survey and the case studies indicates that CBT is most effective when it is delivered on-site by teachers and trainers who are aware of and committed to meeting specific enterprise requirements. The implications are clear: partnerships are needed between enterprises and providers so that any specific enterprise and trainee requirements can be taken into account. However, such partnerships need to recognise the importance of off-the-job training, as well as on-the-job training for specific skills. That underpinning knowledge, alternative procedural approaches and factors contributing to 'best practice' can be discussed most easily off-the-job is also supported by the data. Networking and the other opportunities that group learning affords for exchanging ideas and the development of confidence for trainees is similarly recognised.

Yet, the national survey indicated that off-site, organisational learning is particularly problematic, in that off-site teachers and trainers may be unaware of current industry practice and thus unable to make the necessary links between underpinning knowledge and workplace skills. The need for such organisation-based teachers to become more familiar with current industry practices, and to work to devise appropriate programs in conjunction with those enterprises whose employees are being served by the organisation, becomes of paramount importance.

The opportunity for on-site training is particularly vital for small and regional businesses where difficulties of travel exist and extensive time release from employment cannot be managed easily. There is evidence in the data of very positive partnerships between small and / or regional enterprises and providers and further opportunities for such partnerships need to be sought both by training providers and by enterprises themselves. This may also lead to community and / or regional development, where local community stakeholders are also involved in such partnerships. As Childs (1997, p.17) notes:

> *All the training in the world cannot compete with cost-cutting practices and multinationals … What can make a difference is a strategy linking small business development to community and regional development in response to a globalised economy.*

Partnerships may also provide the best chance of a model that potentially meets the needs of enterprises *and* can be located within a national framework for training They may be the best means of managing the tension between the commitment to national training outcomes and local training outcomes. Findings from the evaluation suggest that increasing the contribution of CBT may be more a matter of giving support and encouragement to partnerships rather than requiring national consistency of outcomes.

Notes

1. 'The concept of competency focuses on what is expected of an employee in the workplace rather than on the learning process ... It encompasses ... task skills, ... task management skills, ... contingency management skills, ... (and) job / role environment skills' (NTB 1992, p.29).
2. Competencies in the case data were most often called national competencies (or competencies required for national standards) and in-house competencies. Conversations around competency however, regularly involved reference to work instructions, work procedures, position descriptions, job descriptions, job specifications and person specifications.
3. See the case of Community for the exception to the 'rule'.
4. (Some) staff at Timberco are critical of this narrow focus and clear about what can be added to competency-based training: 'I think somewhere within competency standards and competency-based training you have to get away from: "This is the way you train somebody, this is the way you da, da, da, da, da". And have this dirty great bit section on human relations dealing face to face with people and how you solve problems talking to people. ... We have to deal with people skills, social skills' (Supervisor).
5. The human resources co-ordinator is currently pursuing the alignment of the work instructions with forest and forest products competency standards: 'We have obviously set the standard basically because we've got the work instructions and the quality processes in place and then the forest industry has come along and developed these national standards so what we want to do is bring them all together, to align them'.
6. The case study enterprise Manteena, the small construction company in the ACT, was also found to be working a 'work(er) education' model of VET. This model, however, was less formal—arguably, not as highly developed—as the model used at Carco.
7. Most of the trainers featuring in the case studies fell into these categories i.e. they were not institutionally-based. They were working for private providers, industry providers and community providers. Some were also employed by TAFE.
8. The biggest complaint about competencies at Community was that they were not specific to the work situation. In the Northern Territory, houses and community buildings are designed to meet tropical and economic conditions. The types of building and therefore the experiences (competencies) the trainees are exposed to don't allow them to complete all the required competencies. Enterprises are so small and specialised that training requirements cannot always be linked to accredited national competency standards. The tradesmen who were training were concerned that, in remote areas, trainees did not have exposure to all the competencies that are required for national standards, for instance, that there was no scaffolding or concrete pouring during the program. Long debates took place on how to overcome this short fall and do the 'right' thing by the trainees. In some instances, the trainers would have liked to deliver more community-focused training but could not be funded to do so as often this training is not accredited (see Wall, Appendix 3, for a full account of Community).

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Appendices

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Appendix 1

National survey information

Table 3.1: Number of interviews conducted in each State or Territory—by industry sector

State	Industry sector Services	Manufacturing	Construction	Agriculture, Forestry & Fishing	Other (e.g. mining)	Total (% of all companies)
New South Wales	7	12	5	6	0	30 (15%)
Northern Territory	5	0	7	0	4	16 (8%)
Queensland	16	10	2	5	0	33 (17%)
South Australia	9	8	7	7	0	31 (16%)
Tasmania	10	6	5	4	0	25 (13%)
Victoria	11	8	5	6	0	30 (15%)
Western Australia	13	5	3	4	5	30 (15%)
Total	**71**	**49**	**34**	**32**	**9**	**195**
% of all companies	36	25	17	16	5	

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Table 3.2: Number of interviews conducted in companies of different size or different location—by State or Territory

State	Size			Location	
	Large	Medium	Small	Urban	Regional
New South Wales	10	14	6	24	6
Northern Territory	3	3	10	8	8
Queensland	12	10	11	23	10
South Australia	15	7	9	20	11
Tasmania	9	9	7	8	17
Victoria	16	7	7	17	13
Western Australia	17	5	8	10	20
Total	**82**	**55**	**58**	**110**	**85**
% of all companies	42	28	30	56	44

Table 3.3: Number of interviews conducted in companies of different size and location—by industry sector

	Company size and location					
Industry sector	Urban			Regional		
	Large	Medium	Small	Large	Medium	Small
Services	24 (34%)*	13 (18%)	14 (20%)	6 (8%)	7 (10%)	7 (10%)
Manufacturing	14 (29%)	7 (14%)	5 (10%)	12 (24%)	7 (14%)	4 (8%)
Construction	13 (38%)	6 (18%)	5 (15%)	2 (6%)	4 (12%)	4 (12%)
Agriculture, Forestry & Fishing	2 (6%)	1 (3%)	4 (12%)	3 (9%)	10 (31%)	12 (37%)
Other (e.g. mining)	1 (11%)	0 (0%)	1 (11%)	5 (56%)	0 (0%)	2 (22%)
Total	**54**	**27**	**29**	**28**	**28**	**29**
% of all companies	28	14	15	14	14	15

*Note: values in parentheses in the above table represent the percentage of the total number of companies within each sector.

Table 3.4: Workforce characteristics of companies in which interviews conducted—by industry sector

Industry sector (Total no. of companies within the sector)	**Employment status of workers*** % of total in industry sector								**Gender of workers**** % of total in industry sector		
	FT	*PT*	*E1*	*NI*	*PE*	*CA*	*E2*	*NI*	*MA*	*FE*	*E3*
Services (Total 71)	25	10	8	57	49	18	19	14	30	27	44
Manufacturing (Total 49)	44	2	4	60	81	8	2	8	62	10	27
Construction (Total 34)	87	0	0	13	77	3	3	17	93	0	7
Agriculture, Forestry & Fishing (Total 32)	72	12	0	16	64	19	6	10	50	3	47
Other (Total 9)	89	0	0	11	89	0	0	11	89	0	11
Total %	**63**	**5**	**2**	**31**	**72**	**10**	**6**	**12**	**65**	**8**	**27**

*

FT = >70% workforce employed full-time
PT = >70% workforce employed part-time
E1 = <70% workforce employed full-time or part-time
E2 = <70% workforce employed permanently or casually
NI = No information re employment status of workforce
PE = >70% workforce employed permanently
CA = >70% workforce employed casually

**

MA = >70% male
FE = >70% female
E3 = <70% male or female

Table 3.5: Nature of companies contacted in each industry sector

Services

airline
butcher
coach tours
community services
electrical contractor
electrical generation and distribution
emergency services
financial services
fire protection installation
first aid training
fitness centre
fitness instruction
floor covering
gas
hardware
health and housing
health and nursing education
health services
industry training services
local council
marine electricians
port management
power generation
real estate
residential hotel
retail
retail travel agency
resort
resource management
restaurant chain
security services
supermarket chain
tourist bureau
tractor and plant servicing
training and employment provider
training for construction industry
training naval technicians
transport
university
warehousing
welfare
wholesale grocer

Manufacturing

agricultural implements manufacturer
automotive parts manufacturer
auto repairs
commercial laundry
commercial printer
dairy processor
electronic repairs
food processor
glass container manufacturer
heavy vehicle manufacturer
iron ore processor
irrigation equipment manufacturer
joinery manufacturer
lightning protection manufacturer
manufacturer for welding industry
mechanical instrumentation repairs
metal casting
metal smelting
paper carton manufacturer
picture framing
small goods manufacturer
steel manufacturer
tanning of hides
yarns and textiles manufacturer

Agriculture, Forestry and Fishing

agricultural research
baled hay and straw supplier
cereal and legume farm
dairy
dairy farm
fish processors
forestry and pine processor
fruit growing
hardware and timber
horticultural production
log harvesting contractors
oyster farm
particle board maker
saw mill
small farm (beef, cereal)
timber mill
training provider for the forestry industry
vegetable and livestock farm
wholesale plant nursery
wool, grain, meat production

Table 3.5: Nature of companies contacted in each industry sector (cont'd)

Construction

architecture (cultural heritage)
building contractor
carpenter
civil contractor—road builder
commercial builders
construction, engineering and rail
local government (roads, parks maintenance)
construction equipment
fleet maintenance
home construction
pipes and concrete installer
plumber
road maintenance

Other

earth mover
earth moving and mining equipment
mining
mining / refining aluminium

Table 3.6: Training characteristics of companies in which interviews conducted—by industry sector (% of total of companies in industry sector)

Industry sector (Total no. of companies within the sector)	Training standards adopted in programs*				Location of training*				Reputation of training			
	NA	*E*	*NSt*	*O*	*IN*	*T*	*EL*	*NI*	*P*	*N*	*NR*	*NoI*
Services (Total 71)	76	38	10	7	71	31	27	2	31	6	35	27
Manufacturing (Total 49)	92	42	4	2	73	62	4	15	33	8	29	29
Construction (Total 34)	77	30	7	17	73	30	20	13	23	3	52	23
Agriculture, Forestry & Fishing (Total 32)	78	22	12	19	84	41	16	6	19	12	31	38
Other (e.g. mining) (Total 9)	89	78	0	11	78	44	11	11	0	0	100	0
Total %	82	42	7	11	76	42	16	14	21	6	49	23

NA = National standards
NSt = No standards
IN = In-house
EL = University or other educational organisation
P = Positive reputation
NR = No particular reputation

E = Enterprise-specific standards
O = Other standards
T = TAFE (or private provider)
NI = No information about location
N = Negative reputation
NoI = No information about reputation

*Please note that a number of different standards (e.g. both NA & E) and different locations for training (e.g. both IN & T) exist within many enterprises.

NB The information provided gives an overview of standards and locations and thus only a very approximate picture of training within the organisations studied. Given the nature of the survey data, it was in some cases difficult to determine the types of standards and the location of the training used.

Appendix 2

Description of case-study sites

Case study	Industry sector	Detail	Size	Location	Programs & provision	Standards
Manteena	Construction	Construction company engaged in domestic and commercial work	Small 15	ACT metro.	Traineeship delivered on-site by group training provider	National standards, company standards
Bathurst	Manufacturing	Wood turning business making high quality custom products	Small 5	NSW regional Bathurst	Traineeship delivered on-site by industry provider (ITAB)	National standards, company standards
Community	Construction	Housing construction project run by Aboriginal Community Council	Small 10	NT remote—East Arnhem Region	Pre-vocational program delivered on-site by community provider (community—TAFE partnership)	National standards
Plantco	Agriculture, Forestry & Fishing	Wholesale tree nursery producing for commercial and domestic markets	Small 12-15	QLD regional	Traineeship delivered on-site by external provider	National standards, company standards
Council	Services	Local govt. organisation—recently amalgamated	Large 500	SA metro.	Frontline management training delivered off-site by TAFE	National standards, company standards
Storeco	Services	Supermarket store—part of national chain	Large 135	TAS metro.	Traineeship delivered off and on-site by company trainers	Company standards aligned with national standards
Carco	Manufacturing	Vehicle engineering company	Med. 40+	VIC metro.	Operator training delivered on-site by external provider	National standards
Timberco	Agriculture, Forestry & Fishing	Timber processor for commercial, domestic and international markets	Large 300+	WA regional	Operator training, delivered on-site by internal trainers	Company standards, national standards

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Appendix 3

Case studies

1 Case study—Manteena

Michelle Dickson

1.1 Introduction

Manteena Proprietary Limited is a small construction company in the Australian Capital Territory (ACT). Manteena, like many other businesses in the construction industry, require a diverse range of skills through the workers or contractors they employ. Manteena work on a range of construction projects, including domestic and commercial work, fit outs, refurbishments, renovations and general construction. The company is established on a firm family-based commitment to work and to its workers.

The construction industry in Canberra is highly competitive and largely led by the larger construction companies. Smaller companies exist in a competitive market, particularly when current economic conditions mean that work traditionally in the realm of smaller companies is now being undertaken by larger companies. Incredible change surrounds the construction industry, particularly concerning training and industrial issues. Industrial pressure to align pay to skills has meant that the industry is experiencing major restructure as the workers seek to have their skills accredited and recognised.

Manteena have a history of being dedicated to training their workers: 'It's like passing on your best skills and knowledge to someone so that you can continue through their work'. They are proud of the permanent staff and equally proud of their changing contractors and part-time / casual employees. Casualisation and contract employment play a large role in the construction industry. On some jobs, most workers are subcontracted by the construction company. In these cases, Manteena pay close attention to skills used by these workers and seek to take action to provide training opportunities for all on-site (full-time, part-time or casual) whenever possible.

Competency-based training was formally introduced to Manteena around 1994, but management and workers claim that a competency-based approach to training has always been a large part of how people get trained in the construction industry:

> *Really it's not that new for us. We can trace out training right back to our European descendants (sic) who were all trained individually on the job by their 'Masters'. This type of training is not just European—it's just the more traditional apprentice-type way of being trained. But, of course, we didn't go off to a college for a day a week. It*

> *was all on-site and it worked really well back then. In fact, that type of training is one of the most highly regarded. It's like passing on your best skills and knowledge to someone so that you can continue through their work. … I see the way we're using competency-based training now as being not that different. We use it much more and in many more cases, and of course, there's now paperwork to do and payments to make. But really, it's still following a tradition of training in this industry.*
>
> (Manager / Site Supervisor)

Other changes experienced by the construction industry have meant that workers are increasingly becoming more 'multiskilled'. For some, this term is no longer 'the way to go'. But at Manteena it's a way of survival and a way of maximising a set of skills a person might present:

> *I can't see why some people are thinking that multiskilling is bad or dangerous for the industry. It's just a way of tapping in to the collection of skills that someone already has, or can develop through training. Think about it. How many people really just focus on one skill and work that all day? I would argue not many at all. CBT helps us to encourage our workers to explore a whole range of skills, not just be pigeonholed into one set of trade skills.*
>
> (Supervisor)

1.2 What is CBT at Manteena?

Most of the training conducted at Manteena is accredited. They are in an interesting position by having a range of employees being trained at different levels. The amount of training being undertaken is a reflection of the value they place on training as an integral part of their continued success. For example, they have people:

- undertaking post-trade training off-site through a public provider
- doing training and study through university
- completing a range of trade / apprenticeship training—in a more traditional mode of one day a week at a provider and four days on-site
- training on-site doing traineeships
- training on-site for 'in house' training
- gaining Recognition of Current Competency (RCC) on-site and through a private provider
- doing training through industry providers

Despite this plethora of training at Manteena, most training is focussed at the traineeship level, in anticipation of the development and uptake of training packages for the industry. For Manteena, the 'new traineeships' have largely replaced the more traditional form of apprenticeship training. Competency-based training has provided scope for such training to happen, largely on-site, and definitely with the support of the provider.

Manteena work closely with their Industry Training Body and participate in a range of activities supportive of CBT. They also have close affiliations with their industry bodies and use their group training companies as an excellent source of potential trainees and workers:

> *Group training companies and CBT have transformed our industry. Years ago if you needed someone to work for you, as a labourer or even as an apprentice, you'd have*

> *trouble getting someone without putting them on as an indentured apprentice. For a small or medium sized business, this is costly and something that you just can't maintain, especially when the industry faces an economic crisis and you can barely keep the company together. Gone are the days when you could afford to put on an apprentice in first year and take them through to the end of their fourth year. It's too hard to do that now. … With group training companies you can agree to employ someone for a set time and then they have the chance to move on to another employer after your time is up. It means that you don't feel bad by not being able to keep them on, and they are assured of work with other companies. I think it's great.*
>
> (Manager)

Like many other small companies, Manteena see real value in having the opportunity to do most of their training on-site. They have worked up an 'excellent training relationship' with their provider, who comes on-site to do training. However, there are times when training is done off the job, when it is practical for both the provider, Manteena management and the workers.

Competency-based training at Manteena fits in around work. Management suggest that their trainers always use real work situations as training opportunities but they also maximise use of 'down time' for training:

> *A big part of the construction industry is using wet weather to your advantage. If we are working on a site that is out doors, and you have no work to safely go on with in wet weather, then we train. It is quite common for us to use these wet days (or even part of these wet days) to train up people. We mightn't use 'real work' situations, but we're mostly still on-site and refer to what we've all been doing out there. If it is really wet we often organise to go to our provider and get through some training there. It works because we've all made an agreement to be really flexible.*
>
> (Manager / Trainer)

Competency-based training at Manteena is continuing to provide training opportunities to workers who might not have previously had any such opportunity. This, for Manteena, is one of the wonders of CBT—'the opening up of doors to training opportunities for people who thought they'd never be able to do it'.

Despite the often troublesome industrial issues (pay for skill, for example), CBT is highly regarded as being an important part of the development and recognition of individual workers: 'Seeing someone be recognized for what they can do really gets to me. People who have never had formal training, or have missed chances through their life—seeing them achieve through CBT just gives me that great feeling'.

1.3 What counts as competency?

Management and trainers at Manteena share the view that being competent is more than being able to demonstrate you can do a certain skill. Quality of work is vital for reasons including workplace safety, quality control, meeting licensing requirements and general quality standards. At Manteena the ability to demonstrate you can do the job with relatively little supervision (on appropriate tasks) is a highly sought after skill:

> *Being able to do the work is most important. Being able to do it well all the time is really important. Being able to know you can leave someone doing a job and come back to a job well done is most important.*
>
> (Manager / Trainer)

This ability goes hand in hand with the ability to be able to work as a flexible member of a team, to 'pitch in and work together to do the job'. At Manteena, competency is connected with their search for initiative and flexibility in their workers. It is understood as almost an exact method or formula: skill + initiative + awareness of quality + flexibility = competency.

1.4 'Doing' CBT: 'The way we do CBT might be a bit strange'

At Manteena the curriculum grows from the needs of the workers. When training is done on-site, and to some degree when it is done off the job, Manteena focus on the skill levels of the people being trained before they do anything:

> *Before we start any type of CBT we look at the people being trained. We look at the level they are at with their skill and their knowledge, we look at what they already can do at work, and we look at the quality of their work. Another important thing we do is to ask our workers where they want to go, you know, to get an idea about what they want from CBT. We know what we want from training at Manteena, but we need to know that the people we're training are getting what they want. It's gotta work for everyone.*
>
> (Manager)

Such an approach to CBT is somewhat different from the 'norm'. Manteena workers and trainers say that they would lose about 70 per cent of their workers in training if training meant a strong focus on competencies:

> *As a trainer and someone really involved in training I have problems with competency standards. I really do. The language is hard and you have to spend a long time thinking about what the standards mean before you can even start to think clearly about them. So we take a different approach. We start with skills and real jobs and life experiences, and all of that. When the trainee is comfortable with a skill or job or some knowledge, we then start to link it to relevant competency standards. We've got to use our own language though, if it is to make sense.*
>
> (Team Leader / Trainer)

Despite being a small construction company, especially compared to other construction companies in the ACT, Manteena have a particular dedication to training and to a competency-based approach. What makes CBT works at Manteena is a range of factors including:

- the flexibility that a competency-based approach can offer
- the development of an effective relationship with the training provider
- using a competency-based approach to meet the individual needs of trainees and workers, in an effort to meet the larger needs of the company

1.5 Outcomes of training: 'We're getting lots of things out of competency-based trainng, some not even elated to training!'

At Manteena, CBT is providing different stakeholders with different outcomes. Trainees appreciate what CBT is doing for them on a personal level:

> *The time we are with Manteena gives us really great training. I've spent some time working with other companies where I haven't even been trained at all. At another place all they did was tick off boxes in my paperwork. At Manteena it's really different. I get asked about why I do things the way I do, how I do things. I can ask questions without feeling stupid and we only ever tick the boxes at the end of a day, or a week. It's a good feeling. I know I'm learning the skills and I'm learning about the construction industry.*
>
> (Trainee)

Competency-based training is also seen at Manteena as being a means for opening up doors to training opportunity for people who might not have had such offers or opportunities elsewhere:

> *Have a look at (him) over there. He has worked in the industry for ever and a day. Everyone knows him and everyone wants him to work for them. He'll never leave us because we treat him well, respect his skills and learn from him. You know what? He has never done an apprenticeship, never been in a classroom to learn a trade, never done any formal training. We started talking about CBT to him and asked him if he wanted to have his skills recognized and recorded. That's where it all began. … He's a gem. He's one of the best at site set out, he's great at tiling, brickwork, a whole range of things. We started to look at the skills he had already and matched them up against competency standards. If he let us go on and on, I'm sure he'd end up the most qualified construction worker in the country. He's now got a record of his skills, he's on a higher wage and he's now training our workers. … You know what? English is about his third or fourth language (like many others here) but that's not what CBT looks at. We're not using CBT or assessment to test and develop his English language are we? His language is sound enough to allow him to do the work really well—that's it. No barriers, just acknowledgement of skills and ability. He's the one to watch!*
>
> (Manager)

Manteena consider CBT as providing outcomes for people who have previously had huge barriers to training. This is perhaps the most important and valued outcome.

1.6 The contribution of CBT: 'Our industry has changes all the time—CBT helps us to keep ahead of a few important changes'

Industrial relations and union issues, changes to competency standards, workplace standards, an increased focus on occupational health and safety, and an ever growing need to meet licensing requirements, have directed Manteena to seek a means of coping with change:

> *We can't control some changes, but we can be ready. I like to think that the training I do here and the work I do is helping to make a more proactive, prepared workforce. Skills are getting recorded and recognized, people are becoming increasingly valued and work is getting done at a high standard. I like to think that the training we do here contributes to all of that .*
>
> (Trainer)

Industry-wide changes, such as changes to Workcover licensing, and other licensing bodies, have encouraged a commitment to training at Manteena. Both management and workers agree that it is better to be sure that your workers are fully trained and skilled to the right levels, so that you can keep up with the range of licensing and regulatory bodies that dominate the construction industry:

> *We've just got to keep ahead and keep business coming in. Part of how people know us is based on the high levels of skills of our worke—we're proud of that.*
>
> (Manager)

> *It just doesn't pay to do work below standards. We live by our quality and I think CBT is helping us maintain that. Nobody wants to be sued five years down the track because someone did some work they weren't skilled enough to do! That just can't happen, and it doesn't.*
>
> (Worker)

1.7 Summary and issues: 'Competency-based training gives me the feeling that real skills are being developed, used and, most importantly, valued'

At Manteena, CBT is working well. One of the reasons it is working well is that it is approached with a 'people perspective' and not a book-work mentality. People are where Manteena start their training and that's where they end it. The focus never shifts away from the people being trained. That's how they claim to keep people interested in being trained—they feel that their needs are being met, they are being listened to and are getting something out of it.

By presenting CBT as being a new version of an ancient form of training in the construction industry, Manteena successfully gains support for training from a diverse range of workers. The provision of training opportunities, not only for their trainees (under formal traineeships) but also for 'unskilled' construction workers, means that workplace morale is ever growing. Training is looked upon as an established workplace practice that supports the business of construction. Training presents to individuals as an opportunity to achieve, albeit financially, personally or professionally. For the company and the larger construction industry, it is a vital spoke in the wheel.

2 Case study—Bathurst

Michelle Dickson

2.1 Introduction: 'We're small but very busy'

Bathurst Woodturning has grown steadily since its establishment in 1988. As a small business in the manufacturing industry, Bathurst Woodturning has had a range of experience with training.

At Bathurst Woodturning the quality of product is consistently high. This is a serious business goal—everyone works to maintain the high standards established by the company. Through manufacturing and supplying high quality, custom woodturning, commissioned furniture, wood working machinery and tools, and architectural components, Bathurst Woodturning has fostered effective business relationships with both local and distance clients. A well respected name in the industry, Bathurst Woodturning prides itself on quality and ability to turn around very specific orders. Large operators' small, individually designed orders and an ability to maintain a number of large tenders with furniture, stair and housing companies, place Bathurst Woodturning in a very productive mode of operation.

Competency-based training was introduced to Bathurst Woodturning in the mid 1990s. There was a distinct need to establish some formal training for the workers that was specific enough to meet their workplace needs. Traditional forms of training in this industry were not providing enough skill, knowledge and diversity for workers at Bathurst Woodturning. Operating as a small business, workers were sorely missed if they had to attend one (or more) days of training away from the workplace. Such a traditional approach to training meant consistent slowing up of production, and meant that those left in the workplace would have to carry an increased, and difficult, workload.

While management supported a need for training it became increasingly difficult to release people from production, so off-the-job training became a less inviting option, prompting more attention to what could be offered on-site: 'For us, as a small manufacturing business, gone are the days of sending people off for training. Competency-based training means we can do it all right here'.

2.2 What is competency-based training at Bathurst Woodturning?

At Bathurst Woodturning, CBT focuses on relatively newly developed traineeships, an accredited training qualification in woodturning and machining. The training follows the format of most traineeships, with one major difference, that being all of the training is now conducted on the job.

In earlier years, Bathurst Woodturning had trainees who did have to go off-site to complete certain elements of their training. Under the newer traineeships, it is now possible for the trainees to complete the skills and knowledge components of their training completely on-site. This approach provides for the specificity required by the job and encourages continuing commitment to a form of CBT that not only meets industry needs, but also maintains workplace production. This approach to CBT is fully supported by the industry provider who co-ordinates the paperwork and provides support and advice when it is required.

Taking on CBT through this more flexible traineeship means that training has become an integral part of business. Other workers are closely involved with the training being undertaken by the trainees. In fact, the entire process of using CBT at Bathurst Woodturning has created a sense of empowerment and involvement that contributes to the ongoing success of CBT and ensured quality of product.

As a small business, all of the people at Bathurst Woodturning (manager, office administrator, supervisor, worker / trainer, permanent casual worker, trainee) are players in CBT. Competency-based training is seen to be working very well by everyone. The key to success in this small business is a form of training that 'has become just part of what we do everyday'.

2.3 What counts as competency?: 'We need very specialised skills at the end of the training—that's our survival'

Competency at Bathurst Woodturning is considered to be more than just being able to complete a certain task, or run a particular job. A much wider definition of competency applies here. Competency is being skilled enough to be able to see production jobs from conception to packaging for delivery. In such a small workplace, workers are required to use their skills, together with their knowledge of product, materials, technology, time and quality, to work as an integral member of a small work team: 'There's a real sense of being part of a team' (worker).

This view of competency is commonly shared throughout the workplace. Skills are highly valued, particularly the ability to perform the often very intricate work required. However, these skills mean little if a worker doesn't understand the 'bigger picture':

> *Being competent means having the skills we need right here, but it is much more than that. A person could have the skills but not gel at all with the others at work—that's a useless situation, nothing really gets done well at all. If, however, someone can develop skills knowing where they fit in with others, how their skills will contribute to getting a job to completion, and how their skills are valued by other workers, then we will see real progress. To us, that's what being competent is all about: developing skills that are meaningful for everyone on the team.*
>
> (Manager)

Other workers at Bathurst Woodturning agree with how the manager defines competency:

> *If one person is sick here, or not up to scratch, the whole team suffers. Learning skills means that we can all keep working and improving. Sometimes only one person is 'being trained' but that training pays off for all of us in the end.*
>
> (Trainer / Worker)

Although very specific competency is required to work in this business, the general understanding of competence here goes above and beyond the technical, to equally important knowledge, behavioural and team building skills.

2.4 'Doing' CBT: 'Being trained in the workplace really gives our workers true experience and finely tuned skills'

Curriculum, at Bathurst Woodturning, is their daily work loads. The everyday orders, the extraordinary work requests, the supply of constant goods to clients all provide more than adequate materials on which training can be based:

> *We are an extremely specialised industry. Our workplace requires staff to have very particular skills that you can't get anywhere else. By training on-site we make sure that we have the best skills to get the work done. After all, the work is the training and the training is the work.*
>
> (Trainer)

The industry provider makes sure that the workplace has the required paperwork and materials to support and facilitate the training and learning.

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At times, particularly when production is in 'full steam ahead' mode it becomes difficult to ensure an even balance of time for training. Bathurst Woodturning attempt to achieve this balance by truly adopting the philosophy that 'work is training and training is work'. The most time consuming part is making sure all of the training and assessment is recorded appropriately. Time will always be given for feedback and reinforcement of learning, but time often has to be found for the actual recording of events.

As the manager sees it, effective CBT must become an integral part of daily work:

> *We are a very reactive business. We're not so proactive. If a customer wants an order today, they want it today ... not in two weeks time. While we are getting the jobs done, they (the trainees) are also learning about the reality of urgent orders. I don't have to stop learning at work—it's all about getting orders out and learning while you do it.*

So as not to get weighed down by the 'paperwork', Bathurst Woodturning make a conscious effort to look through the written up competencies given to them by their provider, and working together, link the competencies with real work tasks that are part of their current, or projected, work load. This approach reinforces the relevance of true work tasks as learning experiences, experiences to be highly valued as 'training opportunities'.

Competency-based training is not considered as time consuming, for Bathurst Woodturning. By not allowing themselves to be dominated by the 'bookwork', they are able to get on with business, train their staff to workplace needs and meet the objectives in the process:

> *It's really all about training to meet the needs of the industry, the company and the industry. We're not training just to tick off a list of competencies.*

(Worker)

2.5 Outcomes of training: 'We can make sure the training and assessment is up to our standards and also make sure we keep getting the work done'

One of the most important outcomes of the CBT being done at Bathurst Woodturning, is an increased awareness about OH&S issues and improved workplace conditions. A heightened awareness of where the learned skills fit in to the real day at work means that 'workers have a realistic understanding of the daily work routines and how to make the most of them in a safe way. This way we can make sure they are safe workers' (trainer).

Another important outcome is the very practical nature of having the training occur in a very site specific, on the job mode. A large benefit of CBT at Bathurst Woodturning is that it is 'flexible enough to meet their workplace needs and fit in well in a small working team'.

Prior to the uptake of CBT Bathurst Woodturning, workers had to travel to Sydney to attend a course that provided some of what they needed on the job. This was the closest and most available option for any type of training in this sector of the manufacturing industry. The workplace felt the loss of work and production time due to the time it took for people to travel to the training, undertake the training, travel back. This process was considered to be highly inefficient and not really capable of providing the training that was really valued by this sector.

> *We used to have to try and get the work done even if anyone was away (off-site) for training. This new way of training is much better. We still can plan for specific training days, if we need to, but we can always work these around work orders. That's really what we're employed for—to get the jobs done.*
>
> (Trainee)

For the manager, CBT has provided a very flexible way to achieve a multitude of goals, including:

- highly qualified workers
- workers with very specific skills
- an improved awareness of OH&S
- a more supportive work / training environment
- maintenance of high-quality goods
- improved team work
- better job satisfaction for all involved

As he comments: 'I think you get better job satisfaction and feel a lot better when you can work with people you know and learn from them'.

A less obvious but highly important outcome of CBT at Bathurst Woodturning is the room CBT provides for giving learners feedback as they learn and for rewarding the learner with praise or admiration. It also provides a means for recognising (formally) their skills.

This was regarded as highly important to management at Bathurst Woodturning, but the words of the trainee echoed this importance:

> *It's great to have your skills recognised. Sometimes just a nod of the head tells you that you've done it well. Other times, when you get a real rap you feel really good. I've done other courses where I never knew how I was going until the end. I come to work here, work, learn and every day leave feeling that people are seeing change in me and in what I do. … You know you can do the job, but it's really important that you have other people reminding you that you can do it.*

2.6 The contribution of CBT: 'CBT helps us to look after our people—we're really more like a family than a business!'

Before the new traineeship for woodturning and machining, many workers in this sector of the industry had little (or no) access to formal, accredited training that met their workplace needs. As a result, much informal training has traditionally occurred. While this form of training ensured workplace needs were being met it did not allow for any recognition of skills that were transferable, should the worker move to another place of employment.

> *We did have a bit of a problem spending time and money on trainees who moved on to other work, or other things. We've had a few real success stories through using competency-based training here. One of my earlier trainees was fantastic. She had the skill, loved the job, worked well as a team, coped with anything that daily work put up. But, she was forced to move to another area to live, so I helped and lined her up some work with a long-term client. She got the job, is doing really well, and the client has*

> *never looked back. We miss her here but I'm happy to know that we contributed to her skills and her development.*
>
> (Manager)

A major change in the training culture has meant that a more formalised approach to training is providing workers with an accredited record of their skills and abilities that is recognisable across the industry. In an industry where individual workplaces maintain diverse, specific skill requirements, this portable form of skill recognition remains vital. The 'base' skills are recognised widely and the relevant, workplace specific skills are considered 'value added components'.

This change alone has created an increased support of training under a competency-based approach. It also facilitates an empowerment within the workplace when workers' skills are recognised and then drawn upon as a learning / training activity for others.

As a small business involved with CBT in the manufacturing industry, Bathurst Woodturning is setting the pace. The manager has been asked by the industry provider to consider working in a role in regional training / assessment. Other co-operative ventures are emerging as a result of being involved with CBT. Bathurst Woodturning are approaching a number of other small enterprises in the region to join forces on other business matters. Competency-based training is seen as a way for them to keep competitive in a very competitive market:

> *It's really hard to keep up with the high tech, city based companies. I'd like to think our training, quality and commitment help us to do that. Working with other local industries is another step in that direction. We just have to keep it all moving.*

2.7 Summary and issues: 'It's not easy being small, but having the right skills helps'

Competency-based training at Bathurst Woodturning is, for now, focused on traineeships. Accredited training in any form is welcome and valued over the previous informal training. Like many small businesses, Bathurst Woodturning has to really work to stay competitive in the market and CBT is placed at the forefront of this quest. The success of the recent and current competency-based approaches to training in this sector of the manufacturing industry is prompting players to look further at other forms of truly relevant competency training.

However, CBT has not been without challenges for Bathurst Woodturning. A few key issues have been addressed through their CBT journey.

Initially, the major problem was making sure you kept up with the training while also getting the work done. Early attempts at CBT meant that work was being disturbed (to a degree) because competencies and book work had to be consulted all along the training way. In order to get around this hurdle, Bathurst Woodturning adopted this creed: 'Work does come first, but the work itself is the training and the assessment!'.

Another important factor that Bathurst Woodturning face, particularly as a small business, is the increased amount of responsibility for training that a CBT approach puts on the workplace:

> *It was a bit scary at first, thinking that we were expected to do it all, but we quickly solved that fear by tapping in to our industry provider for guidance and assistance. That's now working really well, and we've realised that we can do it anyway. I think it might have just been a case of first time nerves. Now we're old hands—only because we've found a way of using CBT that works for us. It might not work for others, but for us it's just right.*
>
> (Manager)

3 Case study—Community

Phil Wall[1]

3.1 Introduction

In the Territory, the word 'community' refers to only one thing and that is 'a remote Aboriginal community'. Approximately 20 per cent of the Territory or 80 per cent of Aboriginals live in communities. Communities are usually located some distance from mixed communities or towns. A typical community would be 120 to 600 people, remote from most services, on unsealed roads, usually with a primary school, an airstrip, and with a number of non-Aboriginal people in the only paid employment in the community.

Communities have an elected Aboriginal Council that employs a number of non-Aboriginals or 'Balandas'. Employment on the communities is funded by Territory or Federal governments. This employment is for Balandas who perform essential tasks in the following positions: town clerk, accountant, housing manager / trainer, community development employment program co-ordinator, foreman of road crew, community co-ordinator, plumber, electrician, mechanic and recreation officer. This core workforce is supplemented through other government agencies locating staff at the community. These would be health worker, teachers, and sometimes a police aide. There are also store staff and a store manager.

Community economic resources consist of government grants awarded on the basis of population and a number of other factors. Some of the grants are 'tied grants' and these are awarded for: road crew, housing, arts and crafts, women's centres. Some community funds are provided by other government agencies, such as health, education, local government, the National Aboriginal Housing Strategy (NAHS) and the Community Development Employment Program (CDEP). The major source of income for community people is the CDEP or paid unemployment for 16 to 20 hours per week performing community work (at the rate of $183 per week).

This case study examines a building and construction project run by the Community Council of an East Arnhemland Island community at the top end of the Northern Territory. I will call this 'Council' and its surrounding community 'Community'. The elected Aboriginal Council (similar to a Shire) is the controlling body of the community, in this case, traditional Aboriginal people (Yolngu), a large majority of whom are men—traditional land owners or elders.

In this particular community, the Council has a policy of re-claiming important elements of their culture from the Balanda. This policy extends to certain requirements for education and training.

3.2 Delivering VET to a community: Cathedral builders and stone cutters

> *Three stone cutters were asked about their jobs. The first said that he was paid to cut stone. The second said he used special techniques to shape stones in an exceptional way. The third smiled and said: 'I build cathedrals'.*

The origins of the pre-vocational program delivered to 'Community' were practical—repairing some housing stock that was in a very bad state and building 20 houses using contractors and community building teams. Funding for the project came from DEETYA and the NAHS. The project involved major works—20 houses being constructed on a community[2]—and substantial training—further developing the building and construction skills of the local Yolngu people. It was required to meet particular community expectations, that is, that young people be trained to work *on* the community, repairing and building the houses.

It is the preference of communities that the training take place on the community. Communities have a huge communication network. Everyone has a right to know what everyone else is doing. Training is best delivered in the community as it allows for this communication and is therefore more successful. Community delivery includes both on-the-job and off-the-job training. There is a strong reluctance by Community's Council for young trainees to travel into major centres. This reluctance relates to difficulties associated with being away from traditional control, being away from the strong skin group clan system and being exposed to alcohol.

Community's housing and training strategy involved employing two builders. One builder was for on-going repairs and maintenance; the other was dedicated to training. A 170 hour, 13 week pre-vocational training program was proposed. Selected accredited modules from the Construction Workers Grade One Traineeship were negotiated and ten local men were enrolled in the work-training program. Community's training approach emphasises offering opportunities to community people to pursue accredited training. It is very important to the trainees that they are doing the same training as 'blokes in Melbourne'. If they happen not to be suited to training (for example, completing a 12-month traineeship), they can terminate at the end of the pre-vocational program and receive a statement of attainment.

To understand CBT at Community one has to understand communities. The quotation above highlights my experience when talking with Balanda who work and visit on communities. The tradesmen who are contractors have very little contact with Aboriginals on the Community. They are there to do a job and often quite contemptuous of the community members and the Community. They live separately in a camp and quite frequently flaunt community by-laws that have been established to minimise the harm of Balanda contacts with traditional people. The Balanda who are employed by Community, or elect to work in situations of training and service provision of Aboriginal people on communities, often exhibit strong and defensive social justice views related to their own performance and that of the trainees.

The trainers who were the focus of my observation at Community saw themselves as the cathedral builders; the contractors meanwhile, could be defined as stone cutters. The optimism of the cathedral builders and their social justice perspective allowed for a very positive environment in which training results often exceeded expectations. The cathedral builders tended to resent working to a delivery system that, as they saw it, assumed that all people have an understanding of CBT. In some instances, they would have liked to deliver more community-focused training but could not be funded to do so as often this training is not accredited.

3.3 Training at Community: 'We use a "two-way" mode of delivery'

A 'two-way' mode of delivery 'basically encompasses the Yolngu way of doing things and the Western way'. While potentially very rewarding, two-way training, by all accounts, is not an easy task. Indeed, delivery of training of any kind in a community is quite difficult. Language is limited to basic English. Balanda trainers are not familiar with the languages of the Yolngu trainees and trainees only use English when communicating with Balanda. (English is the second or third language of community members.) Trainers, while having appropriate technical skills, may not have the requisite cultural experience. This involves various understandings, including awareness of the fact that training delivered on a community and sponsored by a community council has to compete with more important council business ('men's business').

The main competences that have to be exhibited when delivering training in cross-cultural community settings are, as one might expect, communication and cultural understanding:

> *A lot of innovation is required when delivering in a cross cultural setting. Time and patience are prime requisites as the trainees (come to) understand their responsibilities to a workplace program.*
>
> (Off-the-job Trainer)

> *Sometimes there is confusion for the trainees, who, because of language difficulties, often take everything 'literally' when the on-the-job trainer explains a skill one way and this is different from the way the visiting lecturer describes or demonstrates the skill.*
>
> (Off-the-job Trainer)

In the training program discussed further on, culture and interruptions to training, so that people could attend to community and cultural obligations, were frequently perceived by the Balanda as a serious problem. Problems attached to training were not only 'Balanda problems'. While the younger Yolngu were willing to travel into the major centre for training, this was strongly discouraged by their own Council.

A two-way mode of training commonly involves learning for all concerned. Thus, in the training program observed, trainees did not appear to question what they were asked to do, but it was disastrous if trainers tried to set up training that did not consider clan grouping. In other words, demonstrate awareness that some people are not allowed to work together or to work in certain houses. Yolngu people will only work with people with whom they have developed a trust relationship. Moreover, this relationship implies obligations.

Many Balandas have difficulties when Yolngu people test the obligations of relationship. For example, Yolngu people may ask Balandas to give them cigarettes and money as they ordinarily do in their relationships with other community members. Consequently, 'tight arse' commonly serves as another term for Balanda! At Community, a positive working relationship between the Yolgnu and Balanda had been established. A compromise had been reached where the Yolgnu trainees recognised that the Balanda trainers did not fully understand the implications of a trust relationship. This acceptance of the Balanda allowed for a setting in which training could take place.

3.4 CBT at Community: 'I demonstrate exactly what is a competency'

The Northern Territory Employment and Training Authority requires that all training delivered in the VET sector be accredited. Aboriginal communities themselves seek accredited training so as not to disadvantage their community members. Decisions about training tend to be very clearly defined. At Community, the traineeship and curriculum were identified through consultations with various parties. It was then (seemingly) just a matter of delivering this training as per resource agreement.

In the eyes of the Community, the trainees were privileged to be doing this training. Much discussion by the whole Community takes place before trainees are allowed to enrol on programs. On all communities, there are certain people who cannot mix with other people (skin groups). This matter is resolved by the Community and often the provider is not aware that people enrolling in a program have been vetted. The people the community select for training often do not have the pre-requisite skills for the program; others may have them but are not allowed to enrol.

The trainees see themselves as special. They get construction boots, work clothes, wear safety equipment and are admired within the Community. However, the initial thrill wears off for some. Peer group pressure and the difficulty of working with Balanda who have only English language skills contribute to the attrition rate.

Competency-based training at Community takes the form of apprenticeship or traditional trade training (which, in many ways, reflects the training traditions of traditional Aboriginal people). It is delivered by demonstration on an actual work site:

> *We would expect that at the end of the training that they could work independently and be self reliant. Problem solving is a key competency although it can't be taught. You must give a broad base of knowledge*

(On-the-job Trainer)

> *Most of the delivery was done through demonstration and confirmation. It is very important that a positive relationship be quickly established.*

(Off-the-job Trainer)

The emphasis is on acquiring and demonstrating specific competencies or skills:

> *A competency is a task that you have to do to a standard. I demonstrate exactly what is a competency and then show them exactly what it is that they have to achieve to be competent.*

(On-the-job Trainer)

> *(Competency means) a person (is) able to do a set task efficiently.*

(On-the-job Trainer)

> *(Competency means) the trainees can do a task to the company standards in the time set.*

(Training Manager)

Demonstrating and delivering competencies

There was a tension at Community in relation to 'properly' delivering the training program. The tradesmen who were training were concerned that, in remote areas, trainees did not have exposure to all the competencies that are required for national standards, for instance, that there was no scaffolding or concrete pouring during the program. These trainers had difficulty when there were required competencies that could not be met on the work site or on the community. Long debates took place on how to overcome this shortfall and do the 'right' thing by the trainees.

In the Northern Territory, houses and community buildings are designed to meet tropical and economic conditions. The types of building and therefore the experiences (competencies) the trainees are exposed to don't allow them to complete all the required competencies. The biggest complaint about competencies at Community was that they were not specific to the work situation. Enterprises are so small and specialised in the Northern Territory that training requirements cannot always be linked to accredited national competency standards:

> *The major emphasis for the visiting lecturer and for trainers that could be considered innovation has to do with trying to find ways in which to deliver competencies to satisfy the requirements of accredited training*

(Off-the-job Trainer)

The trainers saw competencies as very important and were not willing to change or alter learning outcomes that were contained within training documents. They relied on the training document as a form of authority when delivering the training. Taking this document into account, trainers would work out a standard way to demonstrate and deliver a competency. This standard approach was also adopted for the benefit of the trainees.

> *Sometimes there is confusion for the trainees ... when the on-the-job trainer explains a skill one way and this is different from the way the visiting lecturer describes or demonstrates the skill.*

(Off-the-job Trainer)

Standardisation was a major compromise for some of the trainers as each of them believed that their way was the correct way. To their credit, they learned to compromise and they themselves accepted different techniques. The trainees, once they had been taught a certain way, took it as given (the one and only way). Arguably, only relatively limited learning can take place in a situation governed by training documents and standardised methods.

3.5 Community delivery of CBT: 'The community can observe and sometimes participate in learning'

Among other things, CBT at Community is a source of income. On communities, it is usual for participants in training to be paid. The training that takes place is usually CDEP—the major source of income for community people.

Further to the status and monetary benefits that training provided at Community, the mode of training delivery ('flexible' CBT; remote delivery) was seen as a great benefit:

> *Other than it being the required mode of delivery if the community is to receive government funded or sponsored training, it is also considered a very successful method of delivery. Remote community trainees, as well as trainers and employment agents within the community, agree with this system of training delivery. It clearly states what is required and it can clearly be assessed. The on-the-job in the community mode of delivery allows for trainees to learn skills and, at the same time, the community can observe and sometimes participate in this learning.*

(Off-the-job Trainer)

Issues in and around community delivery
Like any mode of delivery, the community mode has its limits. Delivering training on a community can mean that there is little variation of tasks. Thus, not all the skills necessary for a course can be taught: 'Competenc(ies) required for completion of an award are often impossible to achieve in remote areas' (training manager).

Trainers understood themselves to be providing 'a course'. They were concerned that the work pertaining to the construction industry is so limited on a community that trainees don't have exposure to sufficient work experience to allow them to complete the required competencies for a traineeship.

Community people have 'special' needs: 'On many occasions, the trainee may have no prior knowledge or would never have seen some (of) the tools or materials before'. Balanda trainers who lived on the Community, while attempting to meet these needs, had some resistance to the special requirements of the training process. Much was said about literacy and numeracy and it was commonly agreed that the biggest barrier to completing levels three and four of traineeships and apprenticeships was the literacy knowledge of community people.

Trainers also commented that when dealing with Aboriginal people: 'You must throw out many of your ideas of achievement'. They understood themselves as under obligation to teach the world of work as Westerners (and training documents) define this world (paid employment). Needless to say, this notion of work was not fully comprehended by Yolngu trainees and work (thus defined) provided few opportunities for them in 'real' terms—no one community has an ongoing building program to allow trainees to be continually employed!

3.6 Work / training outcomes: 'Competency-based training allows trainees to be "work ready" at the completion of the delivery'

Overall, CBT was considered to be very effective because it provided a transparent training approach:

> *As compared to time-based training, like the old apprenticeships, it is far better for skills knowledge ... Trainees understand and accept that it is better than 'time served'. The menu of training or the advanced organiser is transparent. They are motivated because of this.*
>
> (On-the-job Trainer)

> *It is good. It has given a standard set of guidelines that everyone must do. It motivates some as they can see what they have achieved. It contributes to a sense of worth.*
>
> (On-the-job Trainer)

> *The trainees have log books and they are always keen to get a 'box ticked off' ... The trainees themselves think that training is a good idea and wish to continue, and they appear to internalise what is taught. At the completion of the occupational health and safety module, one of the shy Aboriginal trainees who witnessed a contractor sawing metal with a power saw asked the identical question of the contractor that he had been asked many times. He said: 'What are you doing wrong?' to the contractor, then asked him: 'Where are you ear muffs and goggles?'*
>
> (Off-the-job Trainer)

It also contributed positively to the development of certain skills:

> *Observation skills of the trainees are exceptional and for basic levels one and two training, they have no difficulty with learning and completing practical tasks.*
>
> (Off-the-job Trainer)

> *CBT allows trainees to be 'work ready' at the completion of the delivery.*
>
> (Off-the-job Trainer)

Issues in and around 'community CBT'
Knowledge and skills transfer can be problematic on a community. As reported above, the transfer of skills delivered by on-the-job trainers and off-the-job trainers is an issue at Community. Another issue for communities is that training takes place when there are major works, meaning that in any one year there might be up to ten trainees in Construction Worker Traineeship Grade Two. When the major works have been completed there is no way of continuing formal training for these trainees.

The very nature of 'boom and bust' development in communities denies trainees the opportunity for continual learning and practice of skills. Even when there is a major project of ten or 15 houses being constructed, economic factors often prevent contractors providing training (they 'don't have the time'—despite the fact that they have tendered to train people to win the contract).

> *(Transfer) is limited in the community setting. The skills learned in a boom bust situation have very little transfer when the boom leaves the community. Some people may be employed in maintenance crews or in CDEP.*
>
> (Off-the-job Trainer)

> *The boom bust approach to training delivery in the remote communities (means) ... there is not a continuous or ongoing opportunity to enter training at any time in a given industry, and because of the very high turn over of Balanda staff, along with the transient nature of indigenous community members, it is very difficult.*
>
> (Off-the-job Trainer)

Tying training to major projects can also mean that training is focused on only one or two industries:

> *The main criticism is that competencies need to be better packaged to meet community training needs. Packaging of competencies from a number of industries would allow for a suite of accredited skills to be delivered that would benefit communities. The requirement of having, because of economic considerations, to deliver exactly the same training to six to ten people in the same time is difficult to justify when there is only one or two jobs at the end of the training.*
>
> (Off-the-job Trainer)

3.7 The contribution of CBT: The role of partnership

There appear to be some contradictions in the design of CBT when delivered to remote Aboriginal communities. Training is oriented to preparing particular kinds of people—'work ready' people. Work is defined as paid employment. Skills are defined as portable. Trainees are defined as individuals able to make a career. None of these definitions really apply to the reality of community life. For example, traineeships are not necessarily used as a career pathway. Rather, they are often a stop gap economic benefit. Furthermore, career pathways for many Aboriginal people have more to do with skin groupings and how these groupings are constructed within the community than the world of work (paid employment).

The contradictions inherent in CBT when delivered to (remote Aboriginal) communities seem to turn on the word 'work' which has its own history in relation to training on communities:

> *The major focus by the trainers is to get to understand complex, cross cultural issues that govern a remote homelands community. Every effort is made to normalise the workplace so that it reflects the structures of equivalent work situations in other parts of Australia. The concept of work has been strongly influenced by previous programs or*
>
> *CDEP programs, where home duties and normal personal maintenance tasks were designated work so that people could receive their 'work for the dole' payments. The structure of a traineeship is therefore a huge behavioural change.*
>
> (Off-the-job Trainer)

Accredited training (here, traineeship) would appear to be attempting to provide opportunities for community people to participate in 'normal' workplaces. Where, one might ask, do we find such workplaces? And, who sets the norms with regard to work? These questions are particularly relevant in the Northern Territory with its small and specialised industry and its community-based population (at a guess, there are approximately 700 communities, 'homelands' and outstations in the Northern Territory).

If there is any lesson to be learned from the case of Community, it has more to do with partnerships than work and workplaces. At Community, trainees lack the power to get things changed, especially if they are having difficulties with the trainer. However, there is a community system that, once invoked, marginalises a trainer and within a matter of days or months, he or she is removed from the community. This is little understood by many of the trainers. All training on communities relies strongly on the (trust) relationship between the parties. Complex negotiations are necessary to form partnerships at all levels. Face-to-face visits with partners are essential in the maintenance of relationship. Adherence to Aboriginal protocols and requirements, and who speaks to whom, must be observed. These partnerships once established are both satisfying and productive. They provide a lead for thinking about the competences required in particular communities rather than in work situations across Australia. In a 'two-way' training system, both sets of competences would count and each would be worked alongside the other.

Notes

1. This case study of VET in an Aboriginal community is incomplete due to the fact that all research notes and interview data were lost as a consequence of cyclone Thelma. Interviews were conducted with a number of individuals and groups at Community including its builder / trainer and builder / supervisors. (No interviews with the (Yolngu) trainees were made as such interviews would have required the services of a translator.) The interview data included in this case report represent my best efforts to capture the sense and meaning of CBT at Community. They comprise information that I have reconstructed from rough notes of meetings with Community's community members.
2. Trainees had responsibility for two houses only. This was considered a realistic achievable target given the possible conflict between production pressures and the time required for achieving outcomes from the training. It has been estimated that on-the-job training / working with trainees at levels one and two slows production down by up to 50 per cent.

4 Case study—Plantco

Brunella Novello

4.1 Introduction

This case study is based upon the investigation of CBT at a Queensland wholesale tree nursery, which for the purposes of this paper, will be called Plantco. Plantco is a small sized wholesaler which specialises in an extensive range of super-advanced and semi-mature trees in containers, as well as shrubs and topiary plants, which are mainly native to the sub-tropical coastal areas of Queensland and northern New South Wales. The company was established in 1988 and is in its tenth year of operation.

4.2 Context of CBT

The company manager has been the initiator of CBT in this organisation. His interest in CBT is two fold. First, he is committed to the training of his employees within the organisation, and second, he is president of the Brisbane branch of the Queensland Nursery Industry Association (QNIA). These commitments have motivated and enabled him to keep in touch with what is happening in the horticultural industry through his contacts in horticultural training and his association with QNIA. The QNIA maintains a very active role within the nursery industry in the development of projects. An example, is Future Focus, which is a pilot training survey guide for small business clusters for the nursery industry. This program provides a manual from which nurseries will be able to analyse, on a skill-by-skill basis, their training needs. The company manager maintains that, by undertaking this analysis, the manual also serves as a tool to enhance, foster and stimulate discussion and communication between all staff.

Plantco has implemented two forms of CBT. One is the formal, nationally recognised horticultural CBT provided on-site during work times by an external training provider. This is, however, also very flexible. For instance, when trainee one returns to his studies, he will attend an off-site TAFE college one full day a week.

The registered training organisation that Plantco utilises for the formal, nationally recognised training of its trainees, is well recognised within the nursery industry and has an active role as an initiator of training for the industry. As an illustration, following requests from the nursery association (QNIA) to implement industry training, this provider developed a pilot program for traineeships in the nursery and garden maintenance industry. This pilot was introduced in August 1996 with 30 trainees signing on with the training organisation. CBT, for this pilot program, was subsequently reviewed to include the National Horticultural Competency Standards introduced in 1997. Currently there are nearly 200 trainees state-wide receiving training from this particular training provider in the horticultural field. This represents 20 per cent of all horticulture trainees in Queensland.

The company manager recognised the need for an external training provider to deliver the formal on-site training component of CBT. This need was identified not only for purposes of formal accreditation, but also the factor of cost effectiveness and because their core business is embedded in horticultural production and marketing:

> *... so we got in a professional to do it, so the issues have been one of making it clear in our own minds what we want to achieve and getting the right people to do it ... (t)he issue was that it was really difficult for us physically getting the time to write our own in-house standards, to document them, to get the assessment instruments up and running and to actually go through the assessment. Just to do it. Just the pressure of time. That was the biggest thing. Got to run a business at the same time ...*
>
> *The introduction of competency-based training 'gave us the opportunity ... for the trainees themselves to benefit. They have qualifications to Australian standards which we couldn't offer'.*

(Training Manager / Supervisor)

The second form of training utilised by Plantco is their own 'in-house' program of core-skills competencies. These core-skills competencies were informed by the results gathered through the QNIA skills analysis and based on the framework of the National Competency Standards. As a result, Plantco has been able to tailor their in-house core-skills competencies training specifically to small business, local nursery requirements, and the company's needs.

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> *As management, getting ourselves more informed about how the system works has certainly made it easier for us to adapt our own requirements and model them on the national standard and actually write our own in-house competency core-skills. As far as management is concerned, it's made it a little bit easier for us because we've had a very good model to follow.*
>
> (Company Manager)

The company manager explained that these core-skills competencies are linked to productivity and the employees' level of achievement in relation to nationally accredited CBT. Employees' achievement of competencies will, in turn, be linked to appropriate remuneration above the award wage. The core-skills competencies and nationally accredited CBT are both seen by the company as a method to increase motivation and extend the knowledge and skill of the employee. Consequently, the trainees will develop the necessary abilities to grow and maintain a plant in a 'saleable' condition. The company manager also foresees a reduced need for constant supervision and correction. This was reiterated by the training manager / supervisor who sees a benefit of the combination of core-skills competencies and CBT as leading to a decrease in the amount of time spent on continually checking jobs undertaken by the work teams:

> *It (CBT) is also a means by which the company is able to offer some sort of career path through the organisation 'because the last thing we want them (trainees) to do after spending all this time training them is to leave just to seek better employment elsewhere'.*
>
> (Training Manager / Supervisor)

4.3 Introducing CBT to Plantco

Plantco has always had a strong emphasis on training. Although some of Plantco's employees had previously undertaken full-time horticultural studies at TAFE, CBT is only a recent introduction to this company. In November 1997, when Plantco 'felt that they were able to' (company manager), they became involved in the traineeship program and a total of six of their employees were signed up and three have now completed the equivalent of Level three. All three trainees interviewed for this case study stated that they would like to continue with further training.

Taking into account that CBT is effective for Plantco at this formative stage of its introduction, the company manager, however, expressed concern about the lack of available choices:

> *It's either (CBT) or nothing and you know if you want to compare (the) competency-based syllabus to the previous, apparently this is better, but it is the only thing that was available to do the job.*

Nonetheless, the introduction of CBT has been received well. The training manager / supervisor stated that, in his view, the implementation of CBT is a step in the right direction. At this point in time, there is not a great deal that he would change, but does note that there are some gaps, for example, basic pruning, which have been identified, and more may be picked up as they go further through the process:

> *I mean we're just starting to work down a program now and maybe in six or12 months time we'll know how that's going and maybe this is not quite right and go through the change ... Obviously they can't cater for everyone, I mean our dispatch procedures are obviously different to other nurseries that grow a lot of small stock. We use different equipment and obviously you can't look at the same indicators for those sort of needs, but there's the basic fundamentals.*
>
> (Training Manager / Supervisor)

4.4 Being competent: 'The end result is the right result'

Being competent at Plantco means that there is not only the formation of skills but that you can then actually undertake the task. As the company manager states: '(I)t's not book learning, they can actually go and do it', and trainee one explains: '... if the supervisor asked me to do some work down there, whether it be pruning or fertilising or using any of the chemicals, I should be able to go up and do it without buggering the job up, so to speak'.

Trainee two, in his definition of what being competent means, states: '... that you can actually do what you were taught. You can actually put it into practice'. The training manager / supervisor adds: '(t)o be competent you need to know exactly what you're doing and set about knowing what you're trying to achieve so that the end result is the right result, is what we're trying to grow'.

These excerpts illustrate that, at Plantco, there is an expectation that being competent is about practical implementation and application of knowledge in the workplace. It is about knowing what is expected and getting on with doing the job to the required standards of the company.

4.5 Working, training, learning and change in Plantco

Working

The focus in Plantco for working, training and learning is on individuals functioning as part of a flexible team. In the work situation, once plants are potted, they are assigned a batch number and this identification is then entered into the computer. The computer then calculates the plant's requirements for the next nine months. From this information, job sheets are printed and work schedules are organised by the training manager / supervisor and teams are assigned to areas of work such as pruning, spacing, weeding, feeding, maintenance . These teams are flexible and individuals may work with different people on different occasions. This team approach contrasts to other work places where more often individuals are assigned to a particular task.

Plantco's team work system is highly refined to the point where team statistics are collected:

> *... so it's not potting done by one person, it's the team of three people managing to get this amount of potting work done. We do keep statistics to see who is in the team and if we find this team with person X in it always performs poorly when person X is in it, they don't when person Y is in it, well you can identify things are going wrong.*
>
> (Company Manager)

It is part of the training manager / supervisor's role to check that the job sheets are completed and that the assigned tasks have been achieved to the levels set by the core-skills standards. This essentially means that the plant is in a 'saleable' condition.

Training

As mentioned above, the CBT that is being provided by the registered training organisation at Plantco gives the trainees the opportunity to achieve recognition under the National Competency Standards.

The fact that training is provided by the training organisation on-site as an option for trainees has been received well and viewed as a good motivator by management and the trainees. Having the training occur on-site, therefore, has provided opportunities for flexibility in the delivery and content. It also allows for more immediate response to questions that relate to this particular site:

> *... if we have an idea of where the person is working in the company and where they want to end up, we can actually help develop specific and key competencies so that, for instance, if someone is going to be in staff training, they'll get fairly intensive training in staff training and development. Or, if they're going to be working in propagation, we'll do a fair concentration on that kind of training. So if we know that there's a particular area that needs specialisation we try and address that.*
>
> (Training Provider)

There are difficulties, however, with having training delivered on-site. Namely, these are the interruptions from phones, beepers, other personnel and the fact that, at times, the nursery is so busy that training has to be rescheduled and at times missed.

Training by all accounts is not an easy task. It takes time for preparation and a great deal of organisation. It takes effort to prepare for learning whether you are the trainee or the trainer. As the training provider states:

> *Makes me work really hard! I have students who ask some really tricky questions and I've got to go and find the answers and I'm always learning because of that ... It's very wearing but it's also very satisfying. You can see faces light up. Good feedback. And the other thing is because you're there in a classroom situation, you can go up and have people say, 'Oh at work this happened', but they can't take you out there and show you the problem. You can teach a whole lot of theory that's got absolutely nothing to do with that workplace, but if you can see the work place and see the intrinsic difficulties and some of the limitations of that site, it makes the difference as to how you couch the training and how you approach everything.*

Undertaking CBT in Plantco has also led to a level of multi-skilling which allows the employee to move around the company undertaking a range of tasks. The company manager summarises this thus:

> *(a)s they go to the higher levels they have a higher level of competency in each of those areas. Previously we had one person in packaging and dispatch and they stayed there. Now we will rotate people in and out of that packaging and dispatch area of the business for a number of reasons, so they don't get stale, so they don't get seen as them and us, so all the skills are shared by everybody, multi-skilling, job enlargement or enrichment.*

Trainee three reaffirms the benefits of multi-skilling in the following:

> *Oh, I caught on very easily. Virtually every area now, everyone had their own area and I'd go for a different day to get trained in dispatch ... and maintenance, and now I go to everything freely .*

While trainees are becoming multi-skilled, in-house training and supervision by the training manager / supervisor has required him to also develop additional skills in training and coaching.

Trainees also recognise and acknowledge that the training will give them more flexibility and the possibility of gaining better employment.

> *When I first got this job here, I certainly never expected to be here forever, but certainly if you spend a couple of years in the business ... have a couple of years of experience in the trade ... and if you get your level three or your diploma, you're much more likely to get a better job or jobs for yourself.*
>
> (Trainee One)

Competency-based training has also interfaced well with the team-work culture at Plantco. The fact that there was a group of employees undertaking CBT at the same time at Plantco has complemented the team work situation. The company manager describes the structure thus:

> *... (w)e have a fairly flat structure and that means everybody has to know what to do otherwise it just doesn't work so we've found that everybody in the team needs to be competent at what they're doing.*

Learning

Plantco management personnel are aware of the necessity and importance of learning and as such are endeavouring to build a culture of learning. The training manager / supervisor sees that building this culture of learning is integral to the company and the employees. It is a means for moving forwards:

> *... if you can develop a culture to learn it's the first steps towards change and innovation and things like that. Firstly you've got to learn to accept that there's other ways of doing things, better ways and there's things we can all learn.*
>
> (Training Manager / Supervisor)

And further, he states:

> *I guess this comes back to culture too, if you can create the culture where learning new information is not only an acceptable and integral part of the organisation, then yes it will help them in feeling that they are really learning, that it's important to apply themselves to learning.*

The training manager / supervisor asserts that a main feature of undertaking CBT is understanding why things happen, that is, the gaining of 'underpinning knowledge':

> *I generally view it (CBT) as underpinning knowledge so that when they're leaning to deal with something they'll know why things happen and rather than directly applying that knowledge ... (the knowledge) helps them to understand what's happening. It gives them an understanding of how the potting mixes work and when you're talking about*

> *AFP's and water holding they actually understand it ... So we explain that's why we can and can't do this and the reasons behind it.*
>
> (The Training Manager / Supervisor)

> *I'm sure (that CBT helps them to learn in and outside the workplace) because part of the CBT that we provide is about observation and being able to delve and find information. It's not a great memory test. But if they have a holistic view and they can see that there's something different about a plant, they can start to investigate why and that's what we train them to do.*
>
> (Training Provider)

Hence, an outcome of undertaking CBT at Plantco is that the trainees build on their existing, or prior knowledge, in order to gain additional knowledge and skills. They also use prior knowledge to assist in the assimilation and integration of new learning which, in turn, aids them in the interpretation of the new knowledge. The next step is the application of the existing and new knowledge in their daily activities and any potential new situations.

Another example of how Plantco manages the learning of trainees is to encourage a holistic view and to develop an underlying knowledge of what is happening. Due to the nature of the end product at Plantco, it is necessary for employees to be able to envisage the plant/s that they are working with in terms of the plant's future, and what it will look like. It involves understanding how what they do now will affects the plant's appearance later on down its life.

Therefore, the training manager / supervisor has formulated a system of signs to guide the employees in identifying the style and shape of pruning which is required. These signs assist the employees in the 'visualisation' of the final product, in what it is expected to become some time down the track (which for some plants is several years).

Competency-based training also acknowledges that some people have prior knowledge and skills and this has been catered for by the training organisation by providing a process of recognising the trainees' prior learning and how this fits within the competency framework.

> *Someone who has just started working in the industry will possibly go on about a level one, one and a half. If they've been working in the industry for a while but still have a shallow understanding of what's going on, they'd be a two. About three to five years (working in the industry) they usually have competencies at about two and a half, so what we do is round off their knowledge and increase their skills.*
>
> (Training Provider)

Another outcome of CBT at Plantco is in the facilitation of trainee motivation. It was stated by the training manager / supervisor that, as he sees it, CBT has had a positive effect on the trainee's motivation to learn and sees that this, in turn, assists the company through an increase in productivity:

> *Well I think training is invaluable in motivation particularly if you're giving them time to do it and it makes them more self propelled ... improvements in motivation and morale will obviously affect productivity to some degree.*
>
> (Training Manager / Supervisor)

The team approach, in both the nature of the work teams and the formal on-site CBT undertaken at Plantco, provides a social context in which learning can take place and knowledge is shared, both between co-workers and workers and the training manager / supervisor. It involves a trust component where the training manager / supervisor respects and is confident that trained trainees will impart accurate knowledge and meet expectations with minimal direction. Trainee three describes how the team approach enables him to share information:

> *We get assigned every day (to a job). We have a job sheet printed out, ... we get assigned tasks, and beginners get easier tasks and now having been here for a few years now ... I actually take someone who hasn't done it before and I explain and show them, and watch them, and that's the best way to learn, like hands on.*
>
> (Trainee Three)

The importance of respecting the knowledge and ability of your co-workers was emphasised by trainees one and three:

> *Yeah there's a couple of real clever nuts and he's (trainee two) one of them, so he knows everything ... you can't be working with twits.*
>
> (Trainee One)

> *You get on better if you're all interested in the same thing.*
>
> (Trainee Three)

The team approach allows for some problem-solving to occur, particularly in the area of time management. Once they have their work schedules, it is up to the individual teams to work out how they will approach each of the tasks:

> *... how to conduct yourself in a day's work against time, being time oriented, good team situations.*
>
> (Trainee Three)

It was evident throughout the on-site observations that friendly rivalry in this environment was a stimulus for learning. There was informal 'testing' between the co-workers to see who could identify a particular weed or a pest. This also extended to correctly naming plants that they were working on. The training provider mentioned that some of this group had spent upwards of 50 hours working on one assignment and she thought that 'because there was a bit of competition, in a funny way friendly rivalry, they each decided to excel and improve the outcome'.

Indeed, on one observation / visit, the observer noted the high standard of an assignment being submitted for assessment. It was evident that the trainee had undertaken an extensive amount of work in the written component as well as the presentation of the piece of work. 'The trainees seem to take on the responsibility of being a trainee and doing assignments and seem to be more responsible at work' (training provider).

It was observable then, that additional learning occurred outside of the more formal 'classroom' trainer-led instruction. This unstructured extension allowed the trainees to informally 'test' their knowledge and see how they could apply this knowledge in daily tasks.

Prior knowledge can also be brought to the fore in unexpected ways. On a particular observation / visit, a rather aggressive tiger snake attacked a worker as he was walking between the potted plants. Fortunately he was wearing thick, leather hiking boots and the snake's fangs were only able to penetrate the layer of leather and did not break the skin of the ankle. At the break time, an informal first aid recap was undertaken by the employees themselves in a light-hearted, fun way. However, the 'self appointed facilitator' (trainee two) ensured that everyone knew what to do in such a situation, especially in a situation that may not have such a fortunate outcome.

Change

The learning that comes from undertaking CBT at Plantco is seen as a potential vehicle for innovation and creativity:

> *I think with this training hopefully we can get employees that want to produce new ideas and as an organisation we've got to find ways to get these people to think along those lines and let them explore new ideas and give them time to do that. Once they've got training, they still need the time and the motivation to want to put forward new ideas and that's part of becoming an innovative workplace.*

(Training Manager / Supervisor)

Change was also noted in the trainees who have undertaken CBT at Plantco:

> *...it's changed a couple of people's personalities. When I first went to that particular workplace (Plantco) one of the employees was like a little mouse and now he struts around with a new voice, how that weed does this, and this tree does that, and there's new confidence. He has changed. As I mentioned, I've already seen some people who were regarded as just a worker, rise to supervisor and that's not only on this site, it's happened elsewhere.*

(Training Provider)

Changes are generally welcomed and accepted at Plantco. The many changes and the complexities of CBT in the horticulture sector, however, have yet to be entirely worked through. As a consequence, Plantco has experienced some minor frustrations which the company manager expressed as follows:

> *I just wish the government would make the rules the same from time to time so we knew what was going on. Even the training providers just fax the newsletters and say I don't know what it means, find out for yourself, it's a pretty complex system.*

4.6 On a final note

Competency-based training has been received and undertaken in a positive manner at Plantco. Some of the limitations, such as areas which currently are not covered by the national competencies, have been addressed by the company. Consequently, Plantco has complemented the national CBT with their own core-skills competencies, to meet their own specific needs. Apparently, CBT has provided the means for improved outcomes for all parties involved:

> *... it's a win, win win situation. The employees win, the management win, the shareholders win, we're more profitable.*

(Company Manager)

The training manager / supervisor summarises the situation thus:

> *I think as far as CBT goes we're definitely heading in the right direction. We are putting in place training which is based around core fundamental skills and using that as part of our career pathing so their (employees) remuneration is based on that training, which makes it more acceptable for them to undertake the training and they know that the rewards are there in the end. At the same time the company benefits greatly from the increased productivity, lower levels of throw out stock, and things like that.*

Acknowledgement

The management and staff at Plantco and the training provider are gratefully acknowledged for their contribution and for kindly agreeing to take part in interviews and accepting my presence over the course of the case study. They are owed a huge debt of gratitude. Thank you to everyone.

5 Case study—Council

Ken Bridge

5.1 The background

'Council' is a large local government organisation in South Australia with approximately 500 staff who provide 26 discrete community services. Its area of authority consists of a conglomeration of Adelaide suburbs, ranging from old working-class and middle-class districts (some of the latter recently gentrified) to newer up-market residential and commercial developments. Council's depots and other community facilities are scattered throughout this wide area, but the headquarters are centrally located in a new and architecturally imposing building.

There are three important elements in the context of the development of training programs at Council. The first is the fact that Council is actually the product of the recent amalgamation of four smaller local government organisations. The second element is the forthcoming South Australian Local Government legislation, which is expected to require all council services to be offered in open competition with other service providers. The third element is that given the long-standing public service 'tradition' within local government, any significant change in the way Council functions would require substantial cultural change within the organisation and its staff:

> *We decided that we needed to have a major cultural change in the organisation to create a new culture, a competitive culture, customer focussed culture, and bring up the level of professionalism and so on in the organisation. And so we kind of took this holistic approach to the organisation, identified through discussions with quite a number of staff, in fact, we went out to the staff and devised a new vision for the organisation, a new vision which was about ... shaping what type of organisation we needed for the challenges ahead.*

(Acting CEO)

5.2 Training at Council: 'Training for contestability'

Training is a key element in Council's response to these challenges:

> *Then what we did was, we developed all our training and development ... so it was just, as well as a lot of training, we had systems changes, delegation, in the whole way we're working.*
>
> (ibid)

In particular, Council has developed a training program to ensure that all sections of the organisation will be able to provide their services according to the principle of 'contestability':

> *We've got a vision that when contestability comes we can actually be so skilled up and knowledgeable and so on, that we can in fact take on work from surrounding councils and make a profit for the ratepayers of the city of X and reduce the reliance on rates. So we've got a much further vision than just surviving.*
>
> (ibid)

The training program has led to the establishment of a series of business units throughout the organisation, as well as plans to recruit business managers for these units.

There is a wide range of particular programs at Council, including: on-the-job training in specific skills or new procedures (for example, parks and gardens staff learning backhoe operation or library staff learning a new loans system); off-the-shelf training in skills such as manual handling or occupational health and safety; and specially designed programs such as 'dealing with problem staff' for middle management. Training can occur with groups or individuals ('one-on-one').

'Outside' staff training has been Council's first priority with a focus on specific job skills (such as the operation of machinery or generic skills in manual handling), the operation of self-managed work groups (team building) and the development of business plans. Such training is provided for all staff in each category and delivered as skills-components.

'Inside' staff training is much less universal in its scope, partly because of the greater range of levels of responsibility that exist in the central office. Thus, training for base-grade staff has a primary focus on specific skills (for example, new computers for clerical workers and new borrowing systems for library officers), and less emphasis on the development of a team approach to work. Meanwhile, professional staff (for example, engineers, environmental health officers) receive training in new technical systems but also participate in group training sessions to learn how to develop a business plan in their professional area.[1] Finally, senior staff undertake training in areas such as leadership.

Notwithstanding the range of programs, there is a common emphasis on workers and their teams as entrepreneurial 'self-starters' with one eye on the provision of efficient services and another on the main chance (i.e. any opportunity to earn income for the organisation from these endeavours.

5.3 Teams: 'Shoot for the moon if you want'

An important element in the Council's strategic plan for survival in a competitive environment is the development of an effective system of autonomous work teams:

> *We can no longer live in that world that said we are the only providers of these services and therefore there's no pressure to do it better, cheaper, more effectively, more, well there was, but it's more heightened. So the team is the way we see, the team development concept is about, you know if you have a particular area that you're servicing, then you work out how best you can deliver.*
>
> (HR Manager)

Teams are encouraged to aim high when developing their business plans:

> *It's more at the workplace at the work level where innovation and creativity is encouraged, so for example in the team development area there's a lot of emphasis placed on: This is your team, what do you want to do with it, where do you want to go? Shoot for the moon if that's what you want.*
>
> (ibid)

Looming commercial urgency has meant the introduction of new work organisational systems. Outside staff in one district received a good deal of team training prior to the amalgamation and the self-managed work groups became the basis for the development of business plans, as well as constituting a model for an effective system for the delivery of services in the new competitive environment. These organisational systems are built on allowing staff to make decisions about how they deliver their services. They are linked to a training strategy, which emphasises employee participation in open-ended activities so that the ever-changing needs of the new competitive environment can be met.

5.4 Training programs at Council

Consultation is an important element of Council's training programs.

The content of training programs (competencies) is worked out at a number of levels—Local Government Training Association (LGTA) meetings in Melbourne, discussion among council senior management, and (most importantly) by consultation with the council staff themselves.

At one level this may be a matter of management strategy, but at another level it is based on the conviction that those who do the work are skilled: 'These people are the experts and know best how to do the job' (acting CEO).

Thus, when it became necessary to devise training programs for handling council equipment, the parks and gardens supervisors decided to invite field staff to join a working party to prepare the first drafts—a process which took several weeks:

> *Because I thought, well they use the bloody things, you know, they've got a better understanding than I of any little idiosyncrasies and sequence of tasks.*
>
> (Supervisor, Parks and Gardens [P&G])

Equally important in this process are the skills which workers might acquire off the job:

> *One of the very early sessions we did, we asked that question—how many people in this room do weekend work or have done weekend work or run a small business or run a deli with their wife, and about 80 per cent of the people put their hand up. And I said, 'Well with that experience in this room, if we don't pass and we fail, we deserve to fail because we've got that much experience in this room we should be able to be as good as anybody as long as we work together'.*

(ibid)

Ultimately, however, decisions on curriculum are made at senior management level. The acting CEO, who is currently responsible for overseeing training, has a strong commitment to training, based on his early experience as an engineer in the construction industry. He is the linch-pin of the training program, being closely involved in the development of training programs and giving the initial presentation in most courses (he also selects the trainers and meets with them regularly to bring them up to date with Council's directions). However, his own training background is based on practice rather than theory (he has an engineering degree but no formal education in the training arena) and hence his approach to training is very practical.

5.5 The delivery of training: 'Not trying to teach people how to suck eggs'

The delivery of training occurs in a variety of ways—off-the-shelf courses (from TAFE, university, or private providers) and in-house:

> *We have a whole smorgasbord and we package them for individual needs.*

(Acting CEO)

Training can be targeted at individuals or groups, with team building being a key component of the training program:

> *Basically it's about building the team as a team and looking at how they operate the rules, where their vision is, what their services are, who their customers are and so on.*

(HR Manager)

These team skills are transferable, according to a parks and gardens trainee: 'We're training to be a team and not training to be a team of gardeners'.

The delivery of training is selective, rather than provided on a 'scatter-shot' basis: people only get a training package if they need it. Thus much skills training is done on an individual as-needs basis, while group training is carried out only when appropriate (for example, while field staff get training in meeting procedures, so that their teams can function effectively, community services staff don't—on the grounds that 'they meet every day of the week' (acting CEO). Similarly, the human resource manager described how (at a previous workplace) she organised training in such a way as to avoid unnecessary effort:

> *We assessed first for experienced operators. We didn't train first. We assessed, found where the gaps were and then trained the gaps and then reassessed, so we did it backwards but it was deliberate in order, we had lots of experienced operators and what*

> *we did was we offered them the opportunity to be assessed. We gave them all the competencies first so they knew what they were going to be assessed on and then we put them through ... It was a lot more effective in terms of not trying to teach people how to suck eggs and we got a lot of support actually.*

Qualifications themselves are seen as of secondary importance; nevertheless staff are encouraged to seek further education and training:

> *We have a lot of people here who do a lot of study at TAFE. We have a lot of horticulturally qualified people here. They are rewarded when they complete the qualification. They're increased in an incremental level on the pay scale, so they're in fact awarded for achieving those sorts of competencies.*

(ibid)

The process of training: 'Get them to own the ideas'

Council management may have innovative ways of resolving problems, but they believe that what counts is the commitment to these innovations at workplace level: 'The idea is to get them to own the ideas' (acting CEO).

Given the emphasis on skills acquired on the job (or elsewhere), assessment plays an important role in training programs at Council and includes formal recognition of current competencies (RCC) and more informal in-house acknowledgement of the levels of skill:

> *Well what we're working on there is umm, is umm, the assessment for us is going to be two-fold. There's going to be oral assessment and then the practical assessment and it'll be, it won't be the old pass or fail, it'll be either competent or you don't meet competency. Umm. If you meet competency for the oral part but you fail the practical, you can come back in a week or a couple of days when you feel comfortable to repeat the practical and we're not going to make you redo the oral section.*

(Supervisor, P&G)

> *We're trying to make it as friendly as possible. We don't want to scare people off and if possible at the end of the training session, the assessment, we want them to meet competency.*

(ibid)

Because of the large numbers of staff in the organisation, much of the training is done on a 'train the trainer' basis, whereby staff are trained to teach their peers as part of their normal work.

> *Part of our methodology is to train people in teams and then they go back to their team and they become sort of mini expert.*

(HR Manager)

The important element here is to select staff with a passion for training:

> *... picking the real people who've got the fire in the(ir) belly for this type of stuff, who are really keen and so on. So we actually give them extra training and extra development and see them as the stars and the leaders and so on. It doesn't matter what position they're in ... So we have, out of this whole process we've got some real stars that were kind of hidden under a bushel, if you like, coming forward. I mean there are*

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> *one or two people in our Parks and Gardens who for instance uum, would end up doing more training than putting grass down!*
>
> (Acting CEO)

5.6 CBT

Competency-based training is a key element in Council's training program. The training standards at Council are predominantly nationally based, for two reasons: the national Local Government Authority has been developing sets of national generic competencies, and licensing requirements for many specific tasks (for example, load shifting equipment) require adherence to national standards.

> *Okay. There's a pilot program happening at the moment through the local government association. I think it's LGTA. And what they're doing is setting up a data base of competencies that can be extracted and transferred into job descriptions, so they're developing it for all of local government and that's being piloted at the moment. So what we would be doing and we are doing at the moment, is we're actually helping to pilot some of those, to test out, lift out some of those competencies, match them with individual positions and then test them with individuals, say. You know, we need to be clear that we're not just listing an activity as a competency and so making sure that we've covered the sorts of things that that position is likely to do and have that translated into a competency base and so then it dovetails into our performance management system.*
>
> (HR Manager)

The development of competencies has an important place in this comprehensive training program at Council. However, there is not necessarily a common understanding of the term across the organisation.

The deputy CEO, who has a rich personal history in training and a hands-on role but no formal qualifications in the area, has a commonsensical understanding of CBT:

> *A competent worker might be the person who fits the necessity of the job if you like. The person who has all of the skills, social and technical skills, leadership skills, necessary to fit the bill for that particular job.*

In contrast, the HR manager is fairly formalistic in her definition:

> *Okay. I guess the competency stuff for me is a skill perhaps, I'm not that sure, or an attribute that can be tested, it has to be measurable, and one that can be practised and demonstrated. So I guess that's how I see competency. Competency-based training, an extension of that, activities that are designed to teach the skill, or develop the skill, test it, practise it and then assess it.*

Similarly, a supervisor of field staff—with nearly 20 years experience as part of Council's 'outside staff'—has an interpretation of CBT which focusses on the assessment aspect. When asked how he defined competency, he gave the example of signing off apprentices as 'competent' in their second-year subjects.

Meanwhile, two outside field staff differ as to the essence of competency. One trainee (who is currently undertaking a TAFE course in first-line management) shares common ground with the supervisor and the HR manager:

> *Well, you have to pass an exam at the end or a test or something so that they know that you actually know what they've taught you.*

(Trainee, P&G)

However, the other (like the deputy CEO) feels that being able to do the job is what is important:

> *Yeah. Umm. I just sort of see that competency you know you have a task to do and you do it to your best ability, best ability and best knowledge and to be competent and not sort of hold people back or I don't know if I'm explaining it right.*

(Acting Team Leader, P&G)

5.7 Outcomes of CBT

According to senior management, the intended knowledge, skills and attitudes have in fact eventuated:

> *I think it's improved, yeah, absolutely. Especially in field staff. They are aware of what they need, the competencies and skills that they need to run, to have their job, to do that. More so than they ever were before I think.*

(HR Manager)

Moreover, the process has become a more systematic part of the organisation:

> *Well I think it's more structured. I think a lot of it before might have been a bit more ad hoc. And I think the emphasis on being able to measure out competencies really is important.*

(ibid)

At a more general level, there have been significant changes in the way the organisation functions and among the individuals who comprise it. The training program at Council is built on expectations of substantial change in workplace culture:

> *Some people who work in local government believe that we are a benevolent society, that we are created to look after everybody's needs and be nice to them, and never think about whether we give service and we should be giving value for money for that service.*

(Acting CEO)

This goal seems to have been achieved, with even the field staff taking the entrepreneurial message on board:

> *This is the thing I'm trying to emphasise to some of the other workers, that if we don't do our job and work smarter we're going to be taken over and be working for a contractor and you might not have the benefits that we have now. So that is a sort of a threat.*

(Acting Team Leader)

The deputy CEO's perception was that a third of staff are enthusiastic about training, another third are unsure at first but eventually get involved ('getting on the train / bus') while the rest remain resistant and many eventually leave the organisation. However, some staff don't want to get involved, as one supervisor commented:

> *We've got about five of them at the Centre (depot) who don't want to 'get on board the train' as they call it.*
>
> (Supervisor, P&G)

The HR manager was more cautious in her estimation of cultural change in the organisation, seeing only that training is now seen 'in a less negative way':

> *Yes, I think that here I get a feeling that training is regarded in a less negative way than I've come across in other local government areas. It's not seen as an imposition on your time, that it is in fact recognised and rewarded, umm, through remuneration for particularly the outside field staff.*

One reason for her caution was that field staff do not always receive reward for their additional qualifications (they get paid for the work they actually do rather than for the work they are *able* to perform). Meanwhile, clerical staff are under threat from the contestability project. Moreover, there are fewer options for career advancement for administrative staff given the flatter management structure. Overall, therefore, only staff in specialist areas can be optimistic about their future careers:

> *I believe that there's more opportunities for professional people and I guess I mean in the sense of perhaps specialists in GIS, IT people.*
>
> (HR Manager)

Another limitation on changing the culture is the entrenched hierarchical attitudes which persist even in a restructured organisation. As one field staffer complained:

> *When you express your views on certain things they sort of, occasionally it seems they look down on you, like we haven't got the qualifications as what the engineers or managers or supervisors have. They don't seem to really take your ideas in.*
>
> (Acting Team Leader)

The contribution to individuals

As outlined earlier, there is evidence that training programs at Council have contributed to individual development.

> *I think it's focused people on the necessity to get on with it. I think people have identified new skills that they may not have, or even may feel confident about having.*
>
> (Acting CEO)

In fact, there is quite stunning evidence of increased staff self-confidence at all levels: two council departments who announced that they should amalgamate, tradespeople who put up proposals that they should operate mobile service units from home, and a group of parks and gardens staff who travelled to Sydney to address a conference—and were invited back for 1999!

The interviews provided further evidence of individual benefit from training programs. Thus one parks and gardens trainee was clear about her position within the organisation: 'I'm not a supervisor, I'm not anything, I'm a gardener'.

Yet she acknowledged that her current TAFE training program in first-line management had made an enormous contribution to her personal growth:

> *... you have to extend yourself. Meeting new people. Going to new places. Because I still have the mentality of a mother and housewife, that's sort of opening doors for me, making me into a real person again ... I've got these two lives to lead you see. Here, I'm a competent integral part of a team, and people come to me with questions and I'm reliable and resourceful and a whole person, but when I go home, I'm still, you know, something else.*
>
> (Trainee)

The ones who benefit are those who are prepared to 'get on the (training) bus':

> *But the people who are benefiting the most are the people who are actually going on the bus, in other words, the people who are enthused and see this … and take responsibility for their own careers, and talk about employability instead of employment. They grab every bit of training and career development they can get.*
>
> (Acting CEO)

> *People benefiting least are the people who just moan and groan about having been taken away from their jobs to be trained ... They're usually the people who end up leaving anyway.*
>
> (ibid)

Contribution to the organisation

It is clear that CBT has made a significant contribution to the organisation generally.

First, senior management sees that people's skills and knowledge are a resource to the organisation:

> *We also are designing at the moment a program that says umm, the high achievers in this organisation will be very well looked after. A part of that is identifying them, not letting them be lost. Umm. We're also looking after, … part of the structural changes, is identifying knowledge management, so we don't lose knowledge in people's head.*
>
> (Acting CEO)

Teams actually do work, according to field staff:

> *Yes. We work it out as a team here. We have normally on a fortnightly basis, we'll have a team meeting and (if) we have any grievances or anything else like that we'll bring it all out and we'll speak openly about it and then we all say which jobs we're working on and we try and work around; Okay, we've got a major job to do, like up at X we've got a turf laying exercise up there we're doing, to try and promote this turf which we have problems each year on. So we just sort of put our heads together and work through the problems.*
>
> (Acting Team Leader P&G)

> *That's right, they put the ideas up and it's, everything is taken on board and then we work out if it's a good way of doing things or it's going to be too expensive or how are we going to do it and that sort of thing. Yeah, all that's a team concept, it's not driven by one person. It's not overseen by a supervisor, you know we don't have a supervisor. …the team stuff is excellent, I feel.*
>
> (ibid)

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More importantly, from the organisation's point of view, teams 'work' because they take on board the entrepreneurial imperative, as with one section of parks and gardens:

> *What they did was they wrote a vision for horticultural services for the city of X. In fact that was extended for the whole of parks and gardens, and their vision is about providing services throughout South Australia.*

(HR Manager)

5.8 The limits of CBT?

The HR manager felt that CBT had a somewhat limited role:

> *I have some concern with the concept of competencies in terms of training people in attitudinal or behavioural type areas ... I believe that the competency stuff works very well with skills-based and that's why it works with field staff and manufacturing and so on and so forth, but when you get into areas of things like communication, interpersonal stuff, diversity, I think that you need groups of competencies or another approach to complement it. So, I have some reservations.*
>
> *I don't think competency-based training is the be all and end all. I think that there are opportunities or there are times when you need to have different approaches to training which might not be quite so clear cut. There are certainly advantages because it allows measurement and advances to things like performance management, which traditionally local government has not been very good at. So I think competency-based training certainly allows people to measure and define the sorts of skills and activities that they undertake, the tasks, it encourages practising, it encourages assessment, it encourages talking about those things, whereas maybe before they were unwritten. It was assumed that you know how to back a truck out, or you knew how to read a plan or whatever. So now I think they are more formalised and I think that's good because it allows people to have some sort of plan that they can follow. If they're looking at structured skills development ... it says 'Here are the things that will guide that development'.*

Finally, as one team leader pointed out, the impact of training ultimately depends on the individual:

> *You can train as much as you can, but it's really up to the individual to know their capabilities on the machines.*

(Acting Team Leader, P&G)

5.9 Summary and conclusions

Council is an organisation facing a triple challenge—from recent amalgamations, from forthcoming State legislation requiring competitive tendering, and from the need to create an entrepreneurial culture out of a public service tradition.

Council has developed a number of strategies in response to these challenges, including a flatter management structure, but a key strategy is its training program. The training program focusses on contestability in service provision at all levels in the organisation, with self-managed work teams being responsible for the organisation of their own work program, the preparation of tenders and the development of overall business plans. Workers at both an individual and team level are encouraged to become 'self starters' with an entrepreneurial approach to their role.

While the content of training programs at Council is ultimately in the hands of senior management, there is a strong emphasis on the identification of skills and tasks by workers themselves. Moreover, there is a strong emphasis on the assessment of skills that workers already have rather than the unnecessary imposition of compulsory training. In the process of training itself, there is a strong emphasis on employee participation in open-ended activities, rather than on externally imposed instruction.

Competency-based training plays a central role in Council's training program, and is based, in part, on national standards which are being developed by the national Local Government Authority. At Council, licensing requirements exist for many specific tasks and emphasise the importance of national standards (these requirements demand adherence to national standards).

Competency-based training is interpreted at Council in a fairly straightforward way, but is used creatively rather than as a straight-jacket, always with an eye to its practical utility. Among field staff, there is a focus on specific skills-components in both technical and team-related activities, while among professional staff, there is a greater focus on more complex professional tasks.

There is a good deal of evidence that Council's training strategy has been successful, with high levels of skill and self-confidence apparent among staff at all levels in the organisation. Individual trainees feel that they have benefited in their levels of skill and in personal growth; meanwhile self-managed work teams have demonstrated their capacity to manage their own work organisation, as well as to develop business plans in line with Council's entrepreneurial vision.

Apparently, there have been positive outcomes for all stakeholders: for the organisation, a new entrepreneurial spirit; for the individuals in it, a growth in personal skills and self-confidence; and for the ratepayers, a commitment to efficient service and lower rates.

Overall, Council's decision to focus on training as a key element in its response to the triple challenge of amalgamation, legislation and cultural change seems to have been vindicated.

Note

1 It was such a training program that was the subject of my observations of CBT at Council. I observed three sessions of a program that was designed to help a group of professional staff within central administration develop business plans.

6 Case study—Storeco

Helen Bound

6.1 Introduction

This case study is based on a supermarket, which is part of a national retail chain (referred to as the 'Company') where training is enterprise specific. Each supermarket is divided into a number of departments: front-end (checkout);

grocery; fruit and vegetable; the bakery; the butchers; variety and the delicatessen. In the words of the Tasmanian head office, each of these departments is run 'as a small business' with their own budget and targets. However, procedures, products and often layout, are standard across all supermarkets with each of these 'small businesses' accountable to the head office personnel in charge of that particular department across the State.

Competency-based training commenced in Tasmania in 1994. The Company hired a consultant to undertake a skills and task analysis, and develop CBT, known as the Company's National Training Framework, aligned to National Retail Standards. The purpose of CBT training is described by the training officer (Tasmania) as:

> *... based upon bettering the standards of service. The idea is two-fold: to increase the skills and awareness of the staff and public image of retail and to make business more productive.*

Training is aligned to the award, and for those undertaking entry-level training (Certificate One / Two) this is the pathway from casual employment to permanent, full-time employment—65 per cent of staff in the Company in Tasmania are casual. Certificate One / Two is completed over a 12 month period, combining on-the-job training with attendance at the Company's retail college, two days per month. Those who are second-in-charge of a department (2IC) complete a Certificate Three; those who manage a department complete a Certificate Four; and assistant store managers and store managers undertake a Certificate Five. In this store, approximately 50 per cent of staff in management positions have undertaken the training as outlined.

The Company had tried a number of other training schemes prior to the introduction of CBT, generally with unsatisfactory results. The assistant store manager found these previous attempts laughable:

> *In the past we have gone through various training programs which really, to be honest with you, have cost us a fortune and achieved nothing . ... Some of the programs in the past, we had a retailing certificate for assistant managers (of departments), I think, a few years ago, and we, our staff are going to courses conducted by people that work in jewellery shops and furniture shops, and they are discussing issues and things that have absolutely no bearing on what we do. They are of no benefit for us as a company. People coming back from the course would laugh: 'This is a joke and we are wasting out time here'.*

Thus CBT, in this enterprise, is geared specifically to supermarket retailing, as it is training developed by the company:

> *We have more control over the training ourselves. At least the system we have now, we certainly gear towards supermarket retailing and I think training for training's sake is a waste of time unless we are going to get something out of it.*

6.2 What counts as competency?

A worker who recently completed her Certificate One / Two describes competency as: 'Just being able to do things, like not being really good at it, but being able to do a certain level'. A department manager, who also has responsibility for assessing Certificate One / Two on-the-job, simply described competency as 'making sure you are able to do it'. The emphasis is on procedural knowledge assessed through observable behaviour.

An increasing emphasis by the Company on standard products and services is supported by the CBT curriculum. Learning outcomes, supported by performance criteria, are carefully followed by training staff and assessors. This checklist approach assists standardisation and provides a ready tool kit for assessors on-the-job. All those with some responsibility for on-the-job assessment talked about 'marking-off' the person they were assessing as competent. The emphasis on 'what you can do', as opposed to say, tacit knowledge or underpinning knowledge, is captured in the store trainer's explanation of competency:

> *It's actually being able to put it back in the workplace. So you can actually mark people off in the workplace as well, for what they can do, not what they know. I mean, I suppose, but not so much, what they know.*

'Not what they know', reflects a technical, instrumental view of competency. Competency-based training is very much a standards-based training approach consistent with the Company's drive to better the standards of service and make the business more productive. Curriculum is related to specific requirements consistent with the description of competency as being able to 'do it'.

However, not all shared the view that competence was entirely about whether or not you are able to 'do it'. The 2IC described competency as requiring the right attitude, in addition to the skills and knowledge required:

> *Competency, well that is basically having the skills, knowledge and attitude to do it. Yeah, I mean a person can have all the skills and know why it has to be done and everything, but if they don't care, well there goes the competency out the window because they won't do it properly. So it's basically a mixture of the whole.*

This was followed by a story of a young woman who was a 'brilliant worker, she could do everything, she knew why it had to be done, but her heart wasn't in that sort of work'. Consequently, the story continued, she 'slacked off', she ignored customers, she did not serve the way she should. 'And that lacked competency I'd say, in her attitude towards the job'.

At Storeco, the values and attitudes implicit in the curriculum and its delivery support the culture of the organisation. The 'right' work attitudes for workplace productivity are looked for from the very beginning of training:

> *We tend to be fairly careful how we select them. See you will probably find that that person that is doing the traineeship (Certificate One / Two) is maybe a little bit, well, for want of a better word, a more motivated person. ... like feel good about what they do, and eager for extra work and they like to do different things and they are good at what they do and they try harder.*

(Assistant Store Manager)

Only one or two workers are selected each year per store to undertake the Certificate One / Two. Given that the training is also a pathway to permanent employment, competition is high, and management can afford to choose those who not only show promise, but also loyalty and commitment.

Competency-based training has been developed at Storeco to reflect day-to-day work practices. Participants in the training find it highly relevant to their work. It is technical and procedural in nature, as reflected in the codification of knowledge, and the methodical way in which the codes—learning outcomes and performance criteria— are followed.

6.3 Processes of CBT

Competency-based training provides an opportunity for young trainees to learn in a hands-on approach:

> *It's interesting, it's not boring old stuff all the time. You're learning different things all the time and you can practise things.*

Training at all levels involves on-the-job learning and attending the retail college once a month. Because training is delivered from set competency standards, which largely take the form of checklists in work books, there is no opportunity for input to the training. This close match between competencies and delivery results in an emphasis on procedural knowledge.

The on-the-job component of Certificate One / Two is supported with a buddy system whenever the trainee is moved into new departments. Many of the Department Managers and 2ICs had completed or were completing a coaching / mentoring module as part of their Certificate Three, in addition to learning about learning styles. These skills are used to assist not only the trainees, but also new staff, learn required procedures.

The perception by all interviewed was that those undertaking Certificate One / Two benefited from the training because the content was new to these people. Certificates Three and Four involved considerable Recognised Prior Learning (RPL). As the Assistant Store Manager explained:

> *What I tend to find with most of the Certificates that we do is, at this stage, all we are doing is testing people on stuff that they already know. (RPL?) Basically, yes, yeah. I personally with X, the staff trainer, do all of the Certificate 3 and 4 assessments, and I would say that 90 per cent of the stuff that we cover with them, is stuff that they already know, they are already doing as part of their jobs. I guess in the situation further down the track, when we get some newer 2ICs who start doing it, it will become more valuable as a training tool.*

There was little challenge for department managers and 2ICs undertaking this training. Although, some did comment that it was an opportunity to review, and to learn about how people learn.

While younger staff enjoyed the hands-on approach as being 'unlike school', older staff, who were undertaking Certificate Five, found the training a 'challenge':

> *I wouldn't say that the subject I covered was difficult, but the learning process and the studying process was, 'cos I haven't done it for years. … I have never been asked to do it before, so that for me was a new thing. I found it difficult. I got 'Excellent' put on my assignment so I was wrapped!*

A variety of techniques were used in classroom situations, whether these took place at the retail college or in the small training room at the store. These ranged from role play, the use of videos, small group discussion to the completion of worksheets. On-the-job training was generally through demonstration, where showing and 'doing' were the important elements: 'Here, let me show you and then you can have a go', was a commonly used phrase. The degree of underpinning knowledge passed on would depend on the knowledge and communication skills of the demonstrator.

Attending the retail college was an opportunity for networking and for dialogue with peers. While the interactive and social nature of learning was recognised in the variety of techniques used in these situations, this did not appear to extend beyond the classroom. The buddy system and coaching / mentoring modules however, are evidence of the idea that learning is fundamentally a social process, but conditions for collective learning were not created. Learning how to learn also appeared incidental and not an integral part of the curriculum.

6.4 Outcomes of CBT: Increased productivity and changes in store climate

While the obvious and most often stated outcomes of CBT are that it increases productivity because people's skills are increased, CBT does appear to be having other effects. While change and change processes, as such, are not formally addressed in the curriculum, from Certificate Three up, the curriculum includes management skills such as delegating, coaching and mentoring, which has resulted in some change in relations between staff. These changes are expressed as increases in trust, a preparedness to hand over responsibility, and a growing awareness of individual management styles and their impact. The manager of one department, for example, said that her training had made 'not a lot of difference really' to the way she works. But, she then went on to say that:

> *You sort of spread your responsibility around a bit more and I think with the training they taught us more to delegate rather than take the responsibility all to yourself. So now like you tend to delegate different things to different people and that's their job and you know they make it look good and run it for themselves.*

Staff in this department had also noticed the change in relations with their manager. However, these staff felt that this was due to the training they were undertaking. One trainee said, 'It probably has made her respect me a little more.' For another staff member, the training had improved his communication:

> *My communication, I think she said, is a lot more open than it used to be. We only work with each other 15 to 20 hours per week. Basically … one does an early shift, the other does the late shift, and we see each other for a couple of hours in the middle of the day, most of the time. Yeah, so she thinks my communication and passing on messages is a lot better.*

These changes in relations between supervisor and staff appeared to be the result of an increased understanding of their working environment:

> *It's (the training) more my awareness of what is going on and what things need to be done at a certain time. Just organisation (Certificate Three).*

Another trainee, who had recently completed her Certificate One / Two, also felt that communication was easier:

> *The only thing really is that I can understand more of what they are talking about now. We can sort of talk because I have learnt more. I sort of know more of what they are talking about, so it sinks in easier.*

- An improved understanding of work processes and a common language to discuss work provide a basic tool for the organisation to improve quality, increase productivity and achieve its business goals. The individual develops confidence, is interested in learning more, and in the process provides a better quality of service. As one young trainee put it: 'I can talk to them (customers), and feel more at ease, understand them as well', and, 'I would say I am more confident with ideas'. Again, 'I'm more motivated to do stuff, I don't know why, to learn'.

Tight control is exercised over who accesses training. The successful applicant is rewarded with permanency and the possibility of furthering their career. The assistant manager of the store explained the selection process in this way:

> *They run, I think, two courses a year for Certificate One and what we do is, we pick our best, no sorry, I'll go back again, we advertise that these certificates are coming up, we allow the staff to apply for it, and then we pick the one we think is the most suitable. Generally, they are casuals so they finish up with a full-time job ... we look at Certificate One as almost a proving ground for full-time staff ... Certificate Two, we probably tend to be more picky there like, we tend to pick the person, rather than allowing them to put their hands up. … Well, you've put a year into training someone and if this person's got a future, let's put a little bit more into them and try and give them as much chance as possible of getting ahead as well as getting the benefits from it ourselves.*

Other ways of improving staff relations are to uncover those assumptions that experienced workers make in their management of others. For those who have been doing the job for many years, it is easy to make the assumption that everyone knows how to complete a given task. The assistant manager, explained the process in this way:

> *I think when you get to this sort of level of maybe a management level … you tend to assume that people know things that you've been doing for donkeys years. … I mean you quite often assume, you go out there and grab one of those young ones and say: 'Look, go and fix that' and you just assume that they know it and you forget that they have been here for a year, but they have only ever worked on the check-out and they haven't really got a clue what you're talking about. It's too easy to assume these things and I think the benefit of these courses (is that they) make us just stop and think a little bit more about the new people's skills level.*

The assistant manager followed this by an acknowledgment that there are aspects of his management style he has to 'work on':

> *I'm really old fashioned. I've been doing it for 20 years and I favour the old approach, so I tend to be a little bit: 'Do that' instead of: 'Maybe don't you think we could do this another way', and allowing the staff member to work out the solution. And that for me is something I have to work on. I know I'm like that ... and I have to bite my tongue sometimes, but I think that's a result of training.*

(ibid)

This initial stage of awareness reflects changes others were experiencing in the way they operated. For the 2IC undertaking a Certificate Three, his training had led to a realisation that you can delegate, that others have ideas too:

> *I suppose don't try to take everything on yourself, that (if) there is a problem talk it over with your staff because people have different ideas.*

Competency-based training has clearly benefited the individual and has wider implications for the climate at store level. Increased confidence, a preparedness to trust staff by handing over responsibility because management could have confidence in their competence, and a common language, meant that relations, between these staff, at least, were more open and communication lines improved. However, it should be kept in mind that training is not available to all staff. Those who are casual, and those who have been there for many years and were not in a management position, had, and would continue to have, no opportunity to participate in the training and the benefits it provided. In addition to this there were a number (estimated at 50%) of department managers and 2ICs who had yet to undertake the training. Not all were necessarily amenable to doing so.

6.5 Contribution of CBT: Tensions between expectations and culture

While there are very clear advantages of CBT for this store, a number of tensions were evident between 'espoused theories' and 'theories in use'. These tensions were most apparent in the nature of relations between head office (State level) and the store and also between the state training officer's expectations of the program and the reality of operationalising these expectations at store level. The training officer from head office states that:

> *(The) whole reason behind the development and change of competency standards and the implementation of mentoring and coaching was to open up communication channels, to get that top / bottom type communication flowing, and it's certainly assisting in that, and the mentoring process is certainly assisting with recognising what the human resources side of the business can offer to meet business objectives and driving the business into the future.*

The state training officer's expectations of the training had at least, in part, been fulfilled, with communication and openness improving and with some changes in the store climate. Changes in climate were reflected in comments such as 'We now have a more consultative approach', and 'It's not so authoritarian as it used to be'. However, there was tension between the stated intent of the training and the reality. Increased communication flow and what human resources has to offer, were not reflected in the values and reporting mechanisms of the store.

Thus, a comment from a 2IC who tells us that it's not until you move up the ladder a little that you begin to benefit from the more consultative, less authoritarian approach:

> *A lot of managers were there but they would never help you. Now a lot of managers are more open with their staff. If they do have problems, they go and ask, mostly a lot of the younger ones who are still learning and are still used to school I suppose, and they still like their teachers as an authority figure, and so the management is still the same until you move up a bit.*

The store training officer had been in the position long enough to begin to experience the conflict between meeting the demands of budgets, profit projections and understaffing, and implementing training. On a daily basis, a huge range of roles is juggled by the training officer, including filling in as required when there are staff shortages, or when departments are particularly busy:

> *I don't know how to put it, but when they cut staff you can see that departments are battling, and to me, I think that, well training is good, but when you see people up there battling, I think well you know, I'd rather go give them a hand. That's sort of my attitude.*

The store trainer had also experienced a number of conflicts with department managers who felt that training was not as important as meeting their financial needs. They cannot afford to 'lose' a person for the time they are away from their work to be assessed, or trained. Departments are reviewed and rewarded according to their success in meeting budget and financial targets each month. Human resources had recently implemented a new set of criteria for review and development. However, human-resource measures remain secondary to the primary measure of financial success.

The attitude of some department managers towards training appeared to be a reflection of views held by the assistant manager of the store. His reflection on training indicated he was working through the issue of the cost of training versus the benefits:

> *Well costs are always going to be an issue to a certain extent, because you are going to be taking people out of the shop, and basically, they are here to do a job and when they are not here, you have to get someone else to do what they are supposed to be doing when they are here.*

Tangible outcomes of training as a cost benefit were not the only inhibitor to CBT contributing to change. The training officer, for example, was responsible for customer meetings and OH&S meetings. It seemed there were very few decisions which could be made at these meetings: many issues required communication with head office. While staff whose department managers did delegate and encourage staff to offer ideas for displays and the shifting of stock saw the implementation of their ideas at this level, there was little evidence of the ideas of non-management staff being implemented outside department level.

Structures and decision-making processes within the store and head office appeared to provide few opportunities for input and change. The relationship between change and CBT prompted a thoughtful response from the assistant manager:

> *Well I've never been asked, I've never really thought of it in those terms. I've tended to look at it as: 'Oh that's CBT and you're competent in that subject' and you leave it there and that's where it's stopped.*

While head office espoused the view that communication had opened up as a result of CBT, the extent of this 'opening up' appeared to be limited to department level, where those department managers were supportive of more open communication. The day-to-day realities of implementing training within a culture which saw training as secondary, and in many ways unsupported by other structures, limited the potential for change. The conundrum here is that the 'you're competent in that subject' nature of the training supports this very culture.

6.6 Summary and conclusions

In this company, a 'standard' version of competency is performed. It is very much about 'what is expected of an employee in the workplace, rather than on the learning process'. While increasing the competence, and therefore the confidence, of individuals undertaking training, CBT at Storeco does not really develop innovative, critical and creative thinking. Competency-based training has led to changes in climate (increased communication and greater openness), but these changes in climate did not seem to impinge on the culture of the organisation.

Competency-based training delivered from set competency standards which take the form of checklists tends to reproduce the culture of the organisation. Storeco is a part of a company with a focus on standardised products, services and work practices (many of which require standard approaches, for example, those associated with hygiene practices). Competency-based training underwrites this focus and does it very effectively. What it does not do is provide those participating in the training with skills for learning how to learn and critical reflection. Arguably, it is these skills that help those undertaking training to influence the course of events occurring in workplaces and, perhaps, shape these events in new and improved ways.

7 Case study—Carco

Dianne Mulcahy and Pauline James

7.1 Overview

This case study examines CBT at a Victorian vehicle engineering company, which we will call Carco. Carco is a medium-size manufacturing company, which builds cars for the sports end of the market. More specifically, it designs and makes modifications and enhancements to cars. These enhancements are complex and comprehensive and major modifications are launched as new models. Carco is a joint venture between a UK automotive design company and an Australian subsidiary of a multinational car manufacturer. It was incorporated in Victoria in 1991.

Competency-based training was introduced to Carco in 1996. The perceived need of the company was for a structured system of training where competencies could be linked to wages. The Australian Manufacturing Workers' Union (Vehicle Division) sponsored the introduction of CBT as a training system which provides the possibility of delivering wage outcomes consistent with learning on the job.

At Carco, CBT means 'the VIC'—the Vehicle Industry Certificate, an accredited training qualification. The certificate program is organised into knowledge and skill components comprising a total of 400 hours. The skill component, which consists of job specific technical training, is provided on-the-job. The knowledge component is a mix of training in occupational health and safety (OH&S), employee relations, quality management, production techniques and communications. This component is central to Carco's investment in training and delivered by an external (private) provider.

The thrust of CBT at Carco is learning: 'being able to use your mind to ... learn new things and basically pick those new things up and carry them through into the job'. A clear distinction is made between learning and training. Training concerns the skills that operators use on the shop floor. Learning concerns the knowledge and awareness that operators need in order to 'relate to decisions, questions, issues that arise'. The training program is problem-centred such that trainees become involved with the company's decision-making and issues that arise. Competency training at Carco is integrated into critical aspects of the company's work and the industrial and organisational context. Departing from the 'standard' model of CBT, it is widely considered to make a significant contribution to a range of outcomes for trainees and the company at large.

7.2 Introduction: 'A little bit different from the normal'

> *There needed to be ... quality of life training, so they would learn more about how the company ran, and they would also learn skills which would enable them to be, I don't know, better people, better fitted to the environment.*

(Managing Director, Carco)

Competency-based training was introduced to Carco as 'quality of life training'. As the managing director of Carco reports:

> *It was introduced because, as managers, we felt there needed to be some training other than the prescriptive, on-the-job, skill training. There needed to be, what I termed at the time, quality of life training.*

It was also introduced because the company wanted a structured system of training for purposes of linking competencies to pay.

> *We felt that we wanted a competency-based payment system ... And the union, I guess with their experience of similar things inside EBAs (enterprise based agreements), were able to nudge us in the right direction, which I think was good. What I wanted to do though was to not make it ... become terribly prescriptive— you have to do this before you do that, and you have to do this— and so it becomes a chore really. It's a chore one has to do in order to get more money and I wanted to try and avoid that. I wanted to put a bit more interest into it. And we were able to do that. So I think the first step was 'Hey, get off your butt and do something', which we did with the help of the union. But then, using (X provider), and a few ideas, we were able to expand it to be a little bit different from the normal. And I think ... we probably finished up with a fair compromise.*

(ibid)

Competency-based training has been running at Carco for over two years and is deemed to be very successful in the eyes of all stakeholders. What counts as success in this company is training that is 'a little bit different from the normal'.

Is CBT at Carco different from the normal? In what does this difference consist? What might we learn from this difference for 'normal' VET?

7.3 What counts as competency?: 'I want people at the end of it to come out being proactive'

What counts as competency at Carco is knowledge of a range of work tasks and functions so that workers interrelate and make decisions for the benefit of the company and themselves. The emphasis is on learning: 'being able to use your mind to be able to learn new things and basically pick those new things up and carry them through into the job' (supervisor).

Outcomes that are sought from training have to do with behaviours such as taking initiative and responsibility, and showing awareness of all aspects of the company's work. The managing director of Carco defines competency in these terms:

> *I don't want the company full of rocket scientists, I think that's a danger. But I also don't want the company full of little pockets of people that can only do certain things. ... What I want is ... a group of people in the company that have some experience of everyone else's work ... It strikes me that in order for someone on the shop floor, or anyone else for that matter, to be competent, they really have to understand rather more about the job than just the intrinsic skills of putting a wheel on a car ... A competent person is a person who is knowledgeable and skilled in the task that he or she does, but also is aware of the tasks that their colleagues do where ever they are in the company. That makes them competent to relate to decisions, questions, issues that arise, other than other tasks they've done.*

This definition accords with how the trainers in the company define competency:

> *My definition of competency goes something like: the way in which we can effect through the training program a group of individuals who can be proactive within their company and therefore can achieve a better workplace for themselves ... for the benefit of the company and themselves. So that through an occupational health and safety program, I want people at the end of it to come out being proactive .*

It also accords with how the trainees' supervisor understands competency when he states that a competent worker is a worker who 'has knowledge of what he's doing, what he's actually working on, and he's able to do that job without any direct supervision'. These understandings highlight the importance of generic, behavioural skills as opposed to specific technical skills.

7.4 'Doing' CBT: 'It's where they've got to get that "why"'

The curriculum at Carco links directly with work knowledge and work activity. Indeed, it grows out of the everyday activities in which the company is engaged. For example, it provides opportunities to 'learn what's happening behind the scenes in production':

> *They're learning how a program initially starts from the ground up, to the final product that they see. So they see the engineering side of it, the testing, or some of the testing, all the drawings that go behind it, process sheets that we use out on line, just all those little things behind the scenes.*
>
> (Supervisor)

As one of the trainers sees it, the training program is work knowledge-based—it's where the trainees 'get (the) "why"':

> *It's more focussed on the theory side. I mean the practical skills you're getting every day. That's being reinforced all the time. It's where they've got to get that 'why', in the practical sense, why are they doing it that way? I mean there must be a reason. I mean they can ask questions: 'Why are they running out of parts'. Well there's got to be some sort of obvious reason.*

The curriculum is largely problem-based. Problems are set and solved by the trainees themselves and commonly involve significant underpinning knowledge. Thus, in the training program under observation, OH&S, the focus is project work: identifying an OH&S problem, following a problem-solving procedure, suggesting and trialing a solution, and presenting the process and solution to an audience drawn from all parts of the company so that effective action can be taken. Trainees engage in extensive debate in relation to responsibility for accidents in the workplace. Discussion centres around the tension between the work environment and conditions and individual operator 'stupidity'.

Curriculum development is a matter of 'match(ing) the curriculum outline with the way the company does their business'. The starting points for curriculum are 'individuals in context', including issues arising for individuals from this context. Competencies, as given to trainers in training packages, are consulted after the curriculum has been developed and after the issues identified in the workplace have been addressed. Indeed, competencies are 'reporting and accountability requirements', rather than guidelines for work-place learning. In other words, they are an administrative tool which is used at the end of the training process:

> *My belief is that I sort of respond to the company and to the needs of those individuals and to the context and I'll account for them (the competencies). It seems to me the competencies as written are my reporting and accountability requirements.*

(Trainer)

A deliberate effort is made to expand on 'prescriptive, on-the-job skill training', to make training a self-managed system. The managing director describes the approach in these terms:

> *The major initiative we took was … in the project work that they … undertake, and I'm sold on project work, (because) that was the way I was educated even 30 years ago. I think project work is good so long as … it's recognised within the project, that …the students manage themselves. They're not managed. They're not told: 'Hey do this, hey do that'. They actually get into a program and look after themselves.*

7.5 Outcomes of training: 'We're meeting a number of objectives'

The most important outcomes of training at Carco are acknowledged to be intangible. What Carco wants out of training are 'attitudinal changes, ... thinking and commitment qualities, rather than a demonstration of skill on the floor'. The emphasis at Carco is on building knowledge and creating awareness of processes, for example, processes that cross work functions and tasks.

Senior managers and technical experts from outside the company come into Carco and share expertise with people on the shop floor. 'They certainly, the MD likewise, sees responsible and intelligent action comes from the basis of knowledge about the company, about its processes, … values, … direction, and about the way it plans to operate in the future' (trainer).

Carco's commitment is to meeting business goals and encouraging individuals' growth and development. Tensions exist between these two objectives and accommodations must be reached. As one shop-floor trainee explains:

> *I think if the company have got a definite path that they want to go down, it is hard for us to vary off it, but if it's a change that we can see is needed and that change will benefit the company, then usually there's no problem.*

While not necessarily tangible, outcomes from the training are nevertheless real. A supervisor reflects on training in this way:

> *I can see a big change since the program started. The guys are now thinking a lot more without ... without us having to basically patrol the workshop. We can basically say, 'Right, we want this done, … this done, and … this done', and they basically go and do it …They've improved out of sight, the guys. And even the communication between themselves is a lot better now … They're working a lot closer together, not as much as I'd like them to be, but they are a lot better than three years ago, a lot.*

Trainees too acknowledge the value of training, most particularly the opportunity it presents of building knowledge about work processes— 'what goes on behind the scenes':

> *Before this course, I didn't know how any of the procedures operated. I thought a car comes on a truck, someone wants a car fitted with a body kit, it comes in, we fit it, and it goes back out. We've been taught what actually happens behind the scenes: the dealers, all the surveys and … (what) they do about what sort of colour they'd like it, what sort of style, what actually suits the customers, so they order these products in the first place. It taught us all that. What goes on behind the scenes.*

Arguably, the most important outcome from the VET process is the achievement of a recognised qualification:

> *And of course there's the certificate … a lot of the guys on the shop floor are from other countries or they've got absolutely no qualifications whatsoever, so that'd be something to strive for in their case. Even myself, … it's always, you know, like I don't do any night school or anything like that, so every little bit of qualification you can pick up is always useful in the future.*

From the trainers' perspective, training presents an 'opportunity for people to showcase their skills'. Carco is a company that gives recognition to people who achieve and this recognition can act to change their self-perception, their self-identity. People from the shop grow in confidence and find fellow workers more approachable:

> *I'm in and out of the front office … with what we call buying out the cars, that's when they're finished—we have to enter the information on the computer and one thing and another. We always smile and say hello to the different people, whereas I think before, we didn't really know who they were or felt a bit antagonised by them. Now that has changed.*

(ibid)

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7.6 Workplace culture and change: 'The guys are longing to sort of change their roles'

Like many other companies engaged in organisational change, Carco has opted for a 'flat' management structure: 'A couple of years ago we had a night of the long knives and we got rid of a few people ... Some of the people we got rid of were supervisors'. Restructured along post-Fordist[1] lines, Carco is dedicated to improving quality and efficiency, and sharing responsibility for this improvement among all workers. While quality and efficiency are important goals, they don't appear to dominate.

All workers at Carco are understood to be problem setters and problem solvers and training is the mechanism for learning problem-solving processes. A program of workplace change is under way which, in the managing director's words, means breaking down the barriers between the 'office' and the 'shop'. One of the driving ideas behind the training at Carco is to encourage interaction between engineering staff (the office) and production workers (the shop). This interaction is understood to be a matter of expanding each group's awareness of the other.

A supervisor speaks to the origins of the VIC in this way:

> *I guess I saw it as something that was going to change, I guess, the fabric of the way the company ran and especially with the people it was aimed at, which was the shop floor guys. I guess we had a situation where there wasn't a lot of trust between management and the shop floor. There … (were) morale issues …, there … (were) a whole lot of problems. We'd been through a stage of down sizing, (and) what have you, and this was one way to try and rebuild the place and it's worked. Still got a way to go but it's well and truly on its way.*

The VIC training program is a bridge between management and the shop floor. 'If these guys have got to be able to talk to engineers, they've got to be able to talk to them on the same basic terms, and the knowledge may not be as deep but it's still the same knowledge' (trainer). Talking to the engineers is at the same time talking to management. A shared work language is also a shared decision-making language, so that historically hierarchical relations between 'thinkers' and 'doers' can change.

The beneficiaries of this emerging cultural change are hard to determine. It is clear however, that training is the lever of change. The consensus appears to be that all stakeholders benefit from training: trainees, instructors, managers, company and customers.

> *I think everyone benefits in the long run. Management can approach their workers a lot more easily, they can approach them through a program like this. Because it's actually there, it's happening, so they've got a chance to talk about it and relate to their workers about it. It helps the guys on the floor too, to know what's going on behind the scenes. Most of the guys do benefit from it. Once they've finished their VIC, that certificate is counted for any other place they go to.*

(Trainee)

Another trainee at Carco gives consideration to issues of workplace change and the benefits attaching to training in relation to change in this way:

> *Before the VIC came out, … quite a lot of guys … used to do one task and it could be a fairly mundane task, like say fitting a back spring to a car on the right hand side, or fitting wheel nuts, ... just the one thing that they do and they wouldn't want to leave that job. I think they were sort of frightened of changing and they were just happy to come into work and do that year-in and year-out. Now they've had the training, I'm fairly certain that a lot of the guys are longing to … change their roles more than probably the company even wants them to.*

7.7 Developmental expertise: 'They come up with ideas, new ways of doing things'

Grounded in a change-oriented view of competence, Carco's model of competency training is essentially dynamic and developmental. It seeks to capture a notion of expertise which is based on knowledge of work projects, rather than skills, jobs or tasks. Expertise in project knowledge goes hand in hand with the ability to shape working conditions and work contents, and influence the growth of a new culture in the workplace, a culture where different work groups interact.

This expertise has been called developmental expertise (Ellstrom, 1997) and implies 'continuous experimentation and innovative activity on the part of employees during ongoing activities in everyday work' (ibid. p.270). Evidence of this expertise is drawn from the worker's ability to question existing practices and produce novel solutions to problems. The workers at Carco appear to exhibit developmental expertise: 'They're finding the problems a lot earlier ... They're solving those problems before the model starts up as job one ... They seek people to help them, they come up with ideas, new ways of doing things' (supervisor).

Arguably, conditions for the growth of developmental expertise emerge when knowledge and information become the raw material with which enterprises work: 'In these enterprises, learning and working increasingly become an integrated process. The skill structure that tends to emerge has its priority around problem solving and entrepreneurial skills. This phase could be called the process-driven strategy for education and training where most new tasks have a new knowledge dimension and where learning becomes an essential part of successfully executing a task' (Bengtsson, 1993 p.141).

The process-driven strategy for VET is much in evidence at Carco. In this strategy, recognition is given the idea that knowledge is an increasingly significant phenomenon in contemporary workplaces and learning is an essential part of successfully executing work tasks. The main purpose of training within this strategy is to facilitate the transformation of knowledge by encouraging workers to use their job experiences for learning. Along with others at Carco, the managing director would appear to favour this strategy:

> *And you might say you're toilet training your children but when you're 25 and 30 and 40 years old, you're educating. If I'm still training people at that age then I think it's a misnomer. The skill part of it, I think is trying to do that ... Now, the knowledge-based training I see as being extremely important and I see the knowledge-based training as a learning activity, not a training activity.*

7.8 Training partnerships: 'It makes you feel equal to management, this training course'

The overriding reasons for the perceived success of competency training at Carco are that management takes an interest in the training program and the values and beliefs of management and provider coincide. Both parties are committed to educational ideals and learning principles.

Successful CBT is not only a matter of forging external partnerships, partnerships between enterprises and providers, but also internal partnerships, partnerships between management and the shop floor:

> *It makes you feel equal to management, this training course. The gates are open. You can go as far as you can with this course.*
>
> (Trainee)

> *My ultimate goal is I want to get a self-managed workforce ... The ultimate is that these guys are out there, they've got brains. They are responsible people. In the past they may not have been allowed to be responsible. I just want to change that.*
>
> (Supervisor)

One of the trainers at Carco comments that CBT programs, when run in an holistic way, can serve to highlight problems occurring at the workplace and resolve these problems through two-way communication:

> *If there's an issue on the line, they immediately say it straight away, which means it's highlighted. Whereas if it was done any other way, it may not be highlighted, and that's one thing that I think is really good, it brings it to the forefront and you can talk to it in depth. Whereas if it was done through any sort of paperwork, umm, or anything of that sort of nature, I don't think it gets highlighted because they don't really see the matching between what they do and the paperwork that they're filling out. So, I suppose that by doing it in this holistic approach, it makes it a lot easier bringing those problems out and rectifying them. And sometimes those problems need to go back to management again and whilst there's a free and open management structure here, you can discuss those items freely, and not only that, it also allows the opportunity for the guys to assess what the problems are and go back to management to try and get it rectified. That's really what you're aiming for. Not so much me going back to them, it's more for them to look at the problem and try and get the rectification themselves.*

Partnerships do not necessarily entail a harmony of interests between providers and enterprises or management and the shop floor. It would be naive (and dangerous) to assume that training partnerships can and should be totally harmonious, so that the interests of the different parties are as one. The 'trick' in training that distributes its benefits at least somewhat equally, is working disparate interests together, not converging these interests or rolling them over into one interest.

7.9 Summary and conclusions: A little bit different from the normal?

The training conducted at Carco emphasises the necessity to provide the skills, knowledge and attitudes that the company requires and to critically question these requirements. Conflict and struggle between the interests and concerns of the company and the interests and concerns of its workers are accepted as a necessary, if somewhat uncomfortable, part of workplace life:

> *The (VIC) program, as it stands, provides absolutely no potential to do anything other than to reproduce what's there and in fact, in most cases, if you have a look at examples, ... the VIC program is run as a program that's designed very specifically to generate and to reproduce the culture of those particular workplaces. It's a way of enculturating (sic) the workforce into the values of that particular company. I should say also, that I believe we do that. And I believe that's one reason why (the managing director) likes what we do. But we do that in a way that's entirely different. Or, I believe we do that in a way that's entirely different. If you look at (the programs at) Toyota or Ford, or the traditional materials that are around, they're much more in terms of: 'These are the core values and this is what you will repeat back to me and you will repeat back to me in the order in which I give it to you'. Whereas I believe what we do in our program is discuss some of those issues and listen to diverse views. We certainly accept and even encourage people to have their own point of view in relation to those things even though they may not be the sort of thing the company would encourage them to have. So I guess we provide an opportunity for people to express and explore their own relationship to those values and I think that's really important*
>
> (Trainer)

Carco's version of competency training attempts to integrate technical efficiency with social awareness of organisational and industrial issues. The training program is not abstracted from its social and cultural contexts. Little attempt to disguise the political dimensions of education and training is made. These dimensions are integrally related to the learning potential in the VIC. As the trainer above explains:

> *I believe and I've always believed, and I don't think it's changed despite the passing of time, that really learning is about individuals in context. I mean that's your starting point every time. Learning is about the issues that present to you in a particular context and are pressing for you in a particular context ... Where the points press hardest, that's where your richest learning is going to take place. At the moment we have a proliferation of trainers, who see their task as delivering a set program and while you have that stuff happening, you're not going to have any real learning. So, I guess if I could rewrite policy, I would start with somehow ensuring that we have educators who understood those primary starting points. And who are skilled enough to be able to identify them and turn them into curriculum.*
>
> (ibid)

Carco enacts a strategy for VET that would appear to satisfy the needs of multiple stakeholders. In this case example, CBT can be claimed to contribute to a wide range of outcomes in VET. However, this claim can only be made if CBT is understood somewhat differently to published accounts. For Carco, undue attention to outcomes devalues the education and training process. Outcomes are emergent as well as set. Competency is a process through which greater competency can be achieved. It is this feature of competency training that makes Carco's program a little bit different from the normal.

Acknowledgement

We gratefully acknowledge the contribution of those who so kindly agreed to take part in interviews and endure observation over the course of our time at Carco. We owe them a huge debt of gratitude and would like to thank them all.

Note

1 Post-Fordism is a term used to describe changes, which are thought to be occurring currently, in the character of industrial organisations. These changes include the move to flexible production systems and flatter organisational structures. Set within global markets, post-Fordist work places are thought to require a workforce that is multi-skilled and flexible. Workers are constituted as capable of taking shared responsibility for decisions and adept at finding their own solutions to problems. Post-Fordist work places are claimed to continually search for improvement, through approaches such as Total Quality Management. Here, quality is a constant search for improvement and responsibility for improvement (and cutting costs) is shared by every worker. The drive for quality emphasises the importance of generic and behavioural skills such as communication skills, problem solving and teamwork.

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8 Case study—Timberco

Llandis Barratt-Pugh

8.1 Overview

This case study provides the story of CBT through the eyes of six employees at 'Timberco', one of a number of sites operated by the national timber company 'Jarrahdale'. It traces significant, positive, systematic development of training processes from about 1992. This appears due mainly to the close association between the introduction of quality control procedures based upon work instructions and the simultaneous introduction of CBT. In this case, CBT appears to have been the tail.

Competency-based training has been built within Timberco upon the need for consistency and safety in all workplace practices. The majority of training has been focussed upon operation specifications and work instructions, which have driven one-to-one workplace instruction. This training has been supplemented with externally accredited training where national standards and accreditation were required. The primary focus of all competence-based activity has been to ensure continual quality and safety in each workplace operation. The emphasis has therefore been on job definition and skill development.

Each employee interviewed described the recent developments as positive and indicated a number of benefits that this systematic approach to skill development has been able to contribute, both to them personally and to the company as a whole. However, one constant theme emerged during the interviews and observation. This concerned the rigidity of the current systematic approach to training. Ironically, while such an approach had brought a number of identifiable

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benefits, it also acted as a barrier for the adaptation of working processes, the contribution of employee innovation, and the construction of further workplace knowledge. The specifications that controlled the training activity and workplace practices also acted to inhibit change in those workplace practices. The emphasis upon job definition may have had an unforseen dysfunctional effect upon wider employee contribution and organisational development.

Competency-based training has provided an industry relevant framework that has had a significant effect upon the quality of training within the company and the subsequent workplace performance and safety, at skill and job levels. The opportunity to use a competency-based approach to develop less tangible skills, and knowledge of an interpersonal and managerial kind, may contribute in the future to further change for individuals and the organisation. There are managerial aspirations to value employees not only for their skilled contribution, but also for their personal contribution to change in the company. Politically, CBT has been linked into quality assurance procedures. Competency-based training has been used as a subsidiary process to support quality control initiatives. There is now significant interest at Timberco through the Frontline Management program in promoting organisational change through CBT.

8.2 Introduction: Timberco and Jarrahdale

Timberco is part of a national corporate structure, a Western Australian, family-owned company whose history stretches back into the grains of the local timber. Jarrahdale, a large company of over 1000 employees, is involved in afforestation, saw milling and processing timber for commercial, domestic and international markets. The company operates on a number of sites which can be up to 500 kilometres apart, some of which relocate from time-to-time, to track the changing raw material locations.

Timberco is termed a 'a supply company … basically taking logs, cutting them up into planks, drying them, kiln drying them, processing them and then selling them (manager). It has substantial investment in high technology plant and facilities. It deals with large volumes of timber processing involving potentially dangerous activities due to the sheer bulk of the materials involved and the size of the cutting machinery. Employees reported that the industry has never been an attractive work option in terms of pay and conditions, but those who do take up work may stay with the company (here, the company as a whole—Jarrahdale, for their working life. The company is currently at the leading-edge of local ecological politics, where the immediate employment needs of communities are being challenged by the desire for sustainable industrial activity through the preservation of old growth forests for future generations.

Competency-based training at Timberco is intricately associated with the introduction of quality standards—'the ISO 9002 scenario' (supervisor). The introduction of quality standards and specifications was aimed internally at controlling safety in operations. The pressure for safety in operations was graphically illustrated by one of the managers, who, holding up a thumb with a missing tip, commented: 'In fact that's from the short cuts!'. Externally, the motivation was to provide a company profile that would enable Jarrahdale to 'compete with the international market' (supervisor).

The quality assurance process began on one site and then spread to all sites. It was driven by the establishment of 'something called a work instruction' (ibid.)—an internally developed specification for each process and operation. These specifications were introduced into Jarrahdale progressively for each process and machine operation: 'I think actually our first ISO, our first location, was assured around about 1993/94' (HR co-ordinator). They established clear guidelines for what operators needed to do, how they should perform their tasks, and how many of them needed to be trained to ensure continual ability to perform the process.

It was these specified procedures that formed the basis of most of the one-to-one training activity at Timberco. The specifications acted as both a staged competency guide to each process for training and provided the objectives of the process, both in practical terms. This workplace and company generated approach was then supplemented by buying in training for areas where national standards applied to work processes and training requirements.

8.3 CBT at Timberco: 'You can do the job or you can't'

Competency is closely related to the company's quality assurance system and is focussed on the successful replication of the work instructions. At Timberco, competency is understood in these ways:

> *It means me being able to quite happily go to some person and say: 'I want you to do this job' and me to walk away.*
>
> (Supervisor)

> *Doing the job … I'd describe it as either: 'You can do the job or you can't'.*
>
> (HR Co-ordinator)

Competence was seen as 'doing the job right', as it has been defined by others. The focus is on the job and the work practice. There was no emphasis on interpersonal or decision-making processes with this approach.

More than 80 per cent of training is one-to-one workplace-based:

> *There is a fairly rigid format. The big volume of training is on work instructions, the internal training. The external training is much less.*
>
> (Training Co-ordinator)

Training at Timberco has been 'enhanced by the introduction of specifications' (HR co-ordinator) which have served as a ready-made competency-based format. While most of the specifications have been determined within the company, those that were available externally or nationally were used where possible. External training organisations are used where accreditation is required or expertise is not available internally. The focus of the training has been on the operational staff or the practical workforce—'that's hitting it right on the head' (ibid.).

This systematic approach to training means that 'training is mandatory rather than voluntary' (ibid.). Recognition for prior learning (RPL) was not a significant issue in such a mandatory system. Employees at a certain position or operation were channelled to related training by the company, regardless of previous experience:

> *We don't have a choice I suppose but we never really ask to go on courses either. You just do your job.*
>
> (Employee / Trainee)

> *It's pointless to volunteer. It doesn't make any difference. The company decides.*
>
> (Training Co-ordinator)

However, there was general satisfaction expressed about the current system of training and the competency-based approach because of the direct relevance of the training and the potential for external accreditation for some courses. This was highlighted by the comparisons staff made with past training practices that they recalled:

> *I won't say that doing a four-year apprenticeship automatically makes you competent.*
>
> (Employee / Trainee)

> *It was called staff supervisory training … run in modules and that sort of stuff … when you finished you got a certificate but it was just a Jarrahdale certificate. Mine ended up in the bin I think.*
>
> (Supervisor)

8.4 Developing competence: 'You are going to become competent in the task and focussed on that task'

The training schedule and training content is 'driven by position descriptions and work instructions' (manager). While most of these descriptions are locally defined, where national standards are applicable, they are used: 'There are the two Australian standards and these will be bought into the work instructions'(training co-ordinator).

Work instructions act as behavioural objectives but they appear to require previously acquired generic skills and knowledge for a successful training process: 'It doesn't tell you step-by-step … you have to have some kind of background to be able to do it in the first place' (supervisor).

The work instructions indicate how many people should be available and trained for various operations and have therefore driven the multi-skilling of the workforce over the past five years. To some, operating different machines has offered the opportunity for further learning: '… you go down the other end, it is different, and they might give you another machine to operate. That's learning' (employee / trainee).

For the company as a whole, external training was difficult to co-ordinate due to the diverse nature of Jarrahdale's operations—'We have eight different apprenticeships' (HR co-ordinator). However, arrangements are being made with one of the local TAFE colleges to run generic training modules to prepare trainees for the industry, using national forestry standards. Nevertheless, there were concerns about the relevance of some external courses: 'The preference is for outside people to be on our site. They're not going off on some generic course ... basically they can't apply the skills they have learned' (ibid.).

The mandatory approach to training activity that ensured such consistency of process through on-the-job training, sometimes led to a mismatch of employee needs and training curriculum, with external courses:

> *I wish senior management when they look to send you on a training course would actually go to the course themselves.*
>
> (Supervisor)

> *First of all to provide the training and then not be offered the opportunity to exercise the training ... that was crazy.*
>
> (Training Co-ordinator)

Training delivery within this system means that people are seen as employees first and trainees second. The focus is on doing the job right: 'You're learning skills and you are going to become competent in the task and focussed on that task' (HR co-ordinator).

The pragmatic training approach, largely based on workplace instructions, has led to a focus on the *doing process* rather than the *learning process*. People were more liable to see themselves as learners when on external courses. In the workplace, the roles of trainers, supervisors and leading hands were blurred: training and work had become an integrated daily pattern, based on work instructions and supported by training skills gathered on external courses:

> *I train them differently now than what I used to before I did the training. I try now to follow the guidelines that I learnt while I was doing the train the trainer course, whereas before, when I was doing training, I had no guidelines, only what I'd learned by being trained myself as a machinist, and that's the way I was doing it.*
>
> (Leading Hand / Trainer)

In contrast, there was some scepticism displayed about the ability to transfer the skills of training from external courses back into the workplace. The skills of facilitating adult learning are taught but not really applied on the shop floor. Training was still more often telling rather than learning:

> *What I am saying is that they (supervisors) have done the train the trainer course, they have got all these good ideas about involving people to improve the learning skills but then when it comes to the shop floor you get the guy sitting down, you give him the work instructions, read through this, and in ten minutes time I will give you a test on it.*
>
> (Training Co-ordinator)

Employees who were motivated to learn wanted a more interactive learning experience and the chance to explore workplace knowledge rather than just replicate workplace instructions. The focus on job procedures was often too limiting for the person involved: 'Just explaining machines better. You have your work instructions and that but that doesn't show you the nitty gritty of little things' (employee / trainee).

The emphasis of the workplace training was upon training delivery linked to direct outcomes on the shop floor. In contrast, managers could afford to see their learning processes as a longer term investment, but these were mainly off-site, tertiary courses personally selected: 'What I found with 'learning' in the biggest sense is that it is never wasted. It may take ten or 15 years before something crops up where you can apply it but it is never wasted' (training co-ordinator).

There was a strong sense of relevance in the organisation in the way that the employees viewed the work instructions that underpinned most of the training activity. The fact that they reflected actual best in-house practice work procedures, gave them legitimacy and validity in the eyes of the workforce: 'You've got to go out there and find out what actually happens and those guys are the experts, they really are' (supervisor).

However, it was perhaps ironically the very respect accorded those specifications which rendered them difficult, subsequently, to improve and change. The opportunity to discuss and change work practices seemed both limited by workplace structures and by managerial styles and skills. Dialogue appeared to be limited or highly formalised. Nevertheless, people recognised the importance of developing such structures and skills for more employee involvement. The focus would be first on training supervisors to promote wider change: 'That's the core of the job, they are the connection between the employees (training co-ordinator).

There was also concern expressed that the emphasis on training for skills was at the expense of training for learning capability. The assessment process was about immediate practical outcomes rather than evaluating understanding:

> *Well, competency obviously means hands on, a lot more than just being able to answer the questions. That's part of it for sure, as hands-on competency, but to assess competency you really must have an effective instrument, and that's what is so often lacking. We've got a work instruction which is a training guideline if you like, but there needs to be a specific assessment instrument and ours are not as good as they should be.*

(ibid)

8.5 What's been gained?

In terms of national VET policy objectives, Timberco has made considerable progress with their approach to CBT. Training outcomes have been specified and enable a flexible approach to individual learning based upon competence in the workplace. In many cases, portable qualifications and generic skills have been gained due to the approach. Assessment is mainly in-house and practical on-the-job leading to considerable multiskilling. However, the use of national standards is limited and independent moderation of assessment very limited. Ironically, it is the focus on locally designed standards that gives the approach legitimacy in the workplace. This underlines the inherent contradiction between the twin goals of the competence-based system to both deliver a nationally integrated system and relevant workplace standards.

At the individual level, people in the company expressed positive comments about what the CBT experience had equipped them to perform, and how that performance made them feel:

> *They don't just sit there like stunned mullets while you go through your spiel.*

(Supervisor)

> *Overall, probably gave me competence and gave me a bit more confidence in my skills myself.*

(Leading Hand / Trainer)

Organisationally, there were benefits from being in a workplace culture where training was more comprehensive and systematic. The synergy between quality specifications and CBT skills development had advantages in terms of consistency, safety and skill acknowledgment:

> *The outcome is good ... and you know that one person's training will be the same as another person's training.*

(Supervisor)

> *More professional—reduced accidents ... managed to bring it down significantly.*

(Manager)

> *I would definitely have to say there has been a culture change. People are starting to get a lot more respect for each other.*

(HR Co-ordinator)

The achievement of qualifications that gave them future portable currency outside the organisation was valued by most people as one of the positive individual outcomes of the system, although management were more ambivalent about this outcome!

> *Me. My own personal goals for me. It means at the age I am, I'm only 35, that if this company fell down in a heap and I had a piece of paper going out there, I wouldn't have to go out there and say, 'Listen guys, I've got this' and they say, 'Show me'. I can go, 'There you are, thank you very much, and I've done this, this, this, this, and this'. And if there is a job out there for me to fall into ... I can fall into it.*

(Supervisor, Timberco)

Some expressed the opinion that for some of the externally accredited qualifications the contractual nature of purchasing training in a marketplace may have led to a situation where: 'The assessment was benevolent'. The achievement of qualifications may therefore have been at the expense of true learning, transferred and used back at the workplace. The role of internal assessors is still largely unexplored:

> *One that I have gone through which is fairly uncommon within the company is as an assessor, and I am concerned that the company hasn't quite caught on to how important that is.*

(Training Co-ordinator)

There was significant evidence from all interviewees that as there had been organisational changes in training activity, there were now, as a result, some different values evident in the workplace culture. There was more unity of purpose towards safety and training had become to each interviewee an accepted part of workplace life.

> *The culture then changes fairly quickly and now the people who break the rules are very much in the minority.*
>
> (ibid)

> *The managing director agrees with the concept ... the bigger picture of the competence-based framework for the whole company has been accepted.*
>
> (HR Co-ordinator)

The more motivated employees recognised that these learning experiences had changed the way they interacted at work: '… at 15 (I) was very shy, overweight, wouldn't say boo to people. For me to have a conversation with you I'd be going "aaaah", to being the way I am now' (supervisor).

8.6 Changes in the workplace

There have been immediate, tangible contributions from the type of CBT operating at Timberco to the daily workplace operations: 'People are doing things more safely now ... the rules are more transparent ... if you come in here without safety glasses on, someone will have a go at you' (manager).

Training is seen as mutually beneficial, with outcomes for the person, the job and the organisation: 'The more they train me at my job and the more better I get at my job the more time and money I save them' (supervisor).

As the thrust of training activity has been on workplace skills, this is where we would expect gains to be made, perhaps at the expense of developing more effective workplace communication patterns. This is identified as the next important phase:

> *I think personally ... change the managerial style ... involving them in discussions ... making them more aware ... we have a big communication breakdown problem. That was identified in a survey.*
>
> (HR Co-ordinator)

There is sufficient evidence to indicate that while the systematic approach to CBT has delivered positive outcomes at the level of workplace job performances, the lack of a systematic approach to training interpersonal skills, most particularly at managerial levels, may have limited the capacity for workplace change.

The focus on safety may have created a workplace culture where it is safer to follow previous patterns. There was only isolated evidence of informal exploring and creating new knowledge individually, or workplace discussion and mentoring relationships. There was strong evidence from interviewees that the current organisational culture did not support such interaction and that the current managerial style reduced support for such a cultural shift.

Vocational knowledge at Timberco was centred on the bible of work instructions. The high regard in which work instructions were held tended to downplay the legitimacy of other workplace knowledge and inhibit the opportunity to incorporate such knowledge in training and production processes:

> *Well, I operated a machine down the other end for a day, to start off with, (I) thought there was something wrong with it. I couldn't tell you what was wrong with it because I didn't know at that stage. We found out there was an encoder lead that was off. The*

> *same thing happened the next time I operated it and I knew where to go to fix it. I need to know otherwise I get frustrated.*
>
> (Employee / Trainee)

The experiential knowledge that this employee / trainee demonstrates sits outside the formal work instructional approach to CBT. It is called 'workplace knowledge': ' ... just something I've just picked up because I've looked and I've learned' (ibid.).

Employees who express the motivation to adapt work practices and create new solutions do not attribute their exploration to the competency-based approach: 'It's just something I've just picked up because I've looked and I've learned ... If I can fix it, I will fix it' (ibid.).

There is no evidence that informal individual learning such as this is encouraged, supported or created through the current training approach. The formalisation of training may also have excluded buddy or mentoring relationships, which accounted for the transfer and distribution of other workplace knowledge:

> *Like stuff you would pick up by watching your dad when you were younger. ... Just working with him and working out of the same office (taught me a lot) about how to treat people, how you can be the best trained supervisor in the world but if you haven't got man-management skills and you haven't got people skills, you're no one.*
>
> (Supervisor)

The work instructions guide consistent practice but appear to limit the innovation and change that develop from workplace constructed knowledge:

> *If you come up with a better idea, yeah you try. Not to do with the grading or all that because that's specified. But something with the machine, like the out-feed where the timber comes out, think (of) a better way to make work easier ... With the machine once you dock it up, it comes out whatever size and wherever, but sometimes you just experiment where it is better off coming out, and things like that.*
>
> (Employee / Trainee)

In some cases a cautious approach seemed to fit best with the prevailing culture: 'In some scenarios you may want them to do no more than they have been trained to do (supervisor.)

It was indicated that the functional approach of CBT and quality assurance may have obscured the need for the development of more interactive skills:

> *I think somewhere within competency standards and competency-based training you have to get away from: 'This is the way you train somebody, this is the way you da, da, da, da, da'. And have this dirty great big section on human relations dealing face-to-face with people and how you solve problems talking to people ... We have to deal with people skills, social skills.*
>
> (ibid)

It was such interaction in the workplace, supported by appropriate managerial skills, which were seen as necessary for promoting more team learning in the workplace, currently inhibited by limited communication patterns:

> *You can hear the nervous tone in their (managers) voice and they should be better communicators.*
>
> (ibid)

> *How would I describe myself—a potential manager ... I have 30 people out there I have to talk to and communicate back to.*
>
> (ibid)

> *Most of my work is this , opening my mouth, talking, working with, helping ... Communication should be competencies among the rest, but it just does not happen at the moment ... Put it into part of training in the first place.*
>
> (ibid)

Workplace learning requires the development of an appropriate culture and managerial support. Training is only now beginning to focus on this area. Where integrated groups have operated in the past to involve employees, they appear not to have been successful: 'They were given too big a task and they floundered a bit ... It doesn't reflect expressions from the meeting' (training co-ordinator).

The result is a culture that focuses on defined and specified job roles: 'The general culture is keep your head down' (ibid.).

The disparate nature of management training and supervisory training and development provides a sharp contrast with the CBT system for workplace practices. While the latter has introduced a culture that unifies employees around specifications and the language of work instructions, the former has been piecemeal and individual with differences among participation, training deliverer, and vocational knowledge gained. For those who have committed themselves to learning, management appears to lack a common language for discussion:

> *We tend to forget about senior management people ... It's not really a learning organisation at that level ... The sort of thing that I see is there is a small group of people ... hungry for knowledge ... Their level is probably higher in understanding than some of the senior people that they have to answer (to) so the difficulty is you might come out with new concepts, new ideas, but often you can't get those concepts across*
>
> (Manager)

> *You are talking on different levels all the time, it's always the lowest common denominator and you've got to talk at the level of people understanding.*
>
> (ibid)

8.7 In conclusion

Competency-based training in this case study is wedded to quality control specifications. Arguably, ISO 9002 has probably had more influence in changing patterns of training at Timberco than the national competency-based framework. However, the organisation has been able to capitalise on the advantages of the national framework to develop particular patterns of training to increase organisational effectiveness and support organisational direction.

The systematic approach has brought immediate, measurable, organisational benefits— 'far higher standards of competency' and 'a pay-off in terms of safety'.

The trade-off appears to be the training process: 'The training is designed to produce conformity. The reasons are frequently to do with safety because it's a dangerous environment' (training co-ordinator).

A number of seeming contradictions arise. The systematic control which has facilitated higher standards of competency is also the barrier to greater flexibility within the work culture. As the human resources co-ordinator acknowledges: 'Yes there's a hard balance there'.

The focus on the specification, the employee and the job has continued to reduce the opportunity to create and distribute new organisational knowledge. The emphasis on outcomes achieves those outcomes, but at the expense of developmental processes. The tension between training outcomes and training processes, and the privileging of the outcomes, appears in this case study to have provided work and job performance consistency, while restricting the ability to adapt, explore, discuss and change. The latter would require more of a focus on the process, the person, and the workplace relationships.

The current initiative to develop more effective interpersonal skills and interaction in the workplace may provide the opportunity for those currently carrying out tasks, to become people who contribute fresh thinking to the company. The strategy to start the initiative with supervisors will no doubt have a considerable effect on managerial cultures: 'We have identified that management are going to be under qualified or less qualified than our team leaders' (HR co-ordinator).

The changing discourse of management is exemplified by traditional words such as *leading hand*, indicating a purely manual contribution to the culture, being replaced by more contemporary words such as *team leader*. The move has been made in this next and second phase to use CBT to skill management for organisational development. There are already employees learning continually in the workplace ('It's just things I've picked up because I've looked and learned ... If I can fix it, I will fix it' (employee / trainee)— and sharing that learning with others. The aim in the future is to engage more people in processes of learning and possibly propel a cultural shift.

Appendix 4

Telephone survey questionnaire

Evaluating the contribution of CBT

Would you please describe:

- the nature of the firm's business
- the size of the firm (i.e. small, medium, large)
- the make-up of the workforce, that is, roughly the number of permanent and casual employees, the number of men and women employees
- the range of occupations covered

What is happening in the company with reference to training?

1 What training is the company involved in, for example, trade training, operator training, management training?

2 How much, if any, of this training is accredited, that is, linked into national industry standards, national training modules / packages and national qualifications?

What is happening in the company with reference to CBT?

3 Which employees / staff undertake CBT in the company, for example, the permanent staff, staff from particular occupations, male / female staff?

4 At what level(s) is this training being done?

5 What does the company expect from this training generally, for example, to improve productivity, to upgrade skills, to create flexibility?

6 Are national competency standards and / or enterprise competency standards being used in the company? Please explain the choice made with respect to these standards.

7 What are these standards being used *for*, for example, to improve skills, to assess skills, to link training to job requirements, to link training to formal qualifications, to recruit new staff?

8 What national training programs, or other programs, are being implemented in the company? Please explain the choice made with respect to these programs.

How effective is CBT? For whom is it effective?

9 What particular issues have arisen in relation to using CBT as a training approach, for example, issues to do with assessment, levels of competence achieved, using key competencies, linking competencies to pay, the character of CBT, for example, its tendency toward administrative arrangements?

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10 What do you see as the advantages of CBT from your perspective, for example, that of a training co-ordinator or human resources manager?

11 What do you see as the disadvantages of CBT from your perspective, for example, that of a training co-ordinator or human resources manager.

12 How would you describe the effectiveness (or otherwise) of CBT in and for the company?

Appendix 5

Case study observation schedule

Competency

- How is competence defined by trainers? What meanings are emerging? How contested are these meanings?
- How is competence defined by trainees? What meanings are emerging? How contested are these meanings?
- How is competence defined in the company? What meanings are emerging? How contested are these meanings?
- What conceptualisation of competence does the program reflect: a 'skills-components' or 'professional' model?

Pedagogy

- What teaching methods are employed? What provision is made for different knowledge domains?
- How motivated are trainees in relation to the training? What type of learning is evident? What expertise is being developed?
- Is the program contributing to creating a 'learning organisation'? Is it helping make 'lifelong learners'?
- What is the balance of training on-the-job / off-the-job? Does CBT lend itself to specific pedagogical processes?

Curriculum

- How are national and enterprise standards used?
- What model of curriculum underpins program?
- What contribution is the program making to individual development, for example, skills other than work skills?
- What value is placed in organisation on 'key' competencies; specific and generic skills?
- What contribution is the program making to recognising skills and attaining qualifications?

Identity

- What identities are practitioners forming through the program provision, for example, instructor, assessor, broker?
- What identities are trainees forming through the program provision, for example, learner, manager, change agent?

- What commitment to CBT is the company making? What does it expect to achieve through its use?
- What subject positions are / are not made possible through the program, for example, flexible / multi-skilled worker?

Innovation

- What contribution is the program making to the development of transferable knowledge or 'innovating skills'?
- To what degree is the program contributing to creating autonomous workers, that is, non-routine problem-solvers?
- What contribution is the program making to 'innovation' in work practices and the organisation of work, for example, teamwork?
- What contribution is the program making to the social relations of the workplace, for example, processes of decision-making.

Cultures of practice

- What contribution is the program making to cultures of training / learning in the enterprise?
- What cultural norms with reference to training / learning are emerging? How contested are these norms?
- What contribution is the program making to processes of organisational development?
- What contribution is the program making to industry-education relations / links?

Appendix 6

Case study interview questionnaire: Employee / trainee

Evaluating the contribution of CBT

Would you please describe:

- the training program you are engaged in
- the work you have done and currently do in the company
- the length of time spent in the company
- how you came to be involved in this training
- prior experience of competency training, if any
- the opportunities given for training in the company

Your experience of CBT

1 What do you understand by the term 'competency'? What does it mean for trainees within this company?

2 How are you using 'competencies' in your work and learning?

3 Who defines the 'competencies' used in the company? To what extent are you able to contribute to decisions about course content and assessment in your training?

4 How do you acquire specific and key competencies during your training, for example, on-the-job learning, investigative tasks, action learning, mentoring, practice? You may need to explain what the key competencies are.

5 What emphasis is placed in this training on knowledge and / or skills transfer from one part of the company to another, and from one company to another?

6 What emphasis is placed in this training on innovative work and learning practices, problem-solving, and creative and critical thinking?

7 What emphasis is placed in this training on adapting to change, for example, meeting the work and learning needs of the organisation and / or bringing about change, for example, influencing decisions re new work practices?

The contribution of CBT

8 What contribution has CBT made to:

- your skills and knowledge
- your motivation to learn
- your capacity to learn in and outside work
- your identity (or sense of self) as a worker and / or learner
- accessing training in the workplace
- the quality of training offered in the workplace

- the quality of relationships at work, for example, between you and your supervisor
- skills recognition and vocational qualifications
- career pathing and career planning
- any other facet of your learning and work?

9 What issues have arisen (if any) in relation to CBT in the company?

10 What do you like about the competency training used in this company?

11 What do you dislike about the competency training used in this company?

12 What would you change about the competency training used in this company?

[redacted]

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